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WILDLIFE REVIEW

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WILDLIFE REVIEW

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Except as indicated, abstracts are by Kenneth J. Chiavetta, editor,
and Paul A. Stewart, assistant editor.

SOILS

Arms, Fred S., and others. SOIL SURVEY OF ADAIR COUNTY, KENTUCKY. SCS, Ser. 1961, no. 4. i + 127 p., 7 figs. + single-fold maps based on aerial photos and bound in. Apr. 1964. Sold by Supt. Documents. WR 114: 2

Arno, John R., and others. SOIL SURVEY OF AROOSTOOK COUNTY, MAINE / NORTHEASTERN PART. SCS, Ser. 1958, no. 27. i + 80 p., 8 figs. + single-fold maps based on aerial photos and bound in. Apr. 1964. Available from Supt. Documents. WR 114: 2

Dittemore, William H., Jr., and Harold W. Hyde. SOIL SURVEY OF YOAKUM COUNTY, TEXAS. SCS, Ser. 1960, no. 15. i + 53 p., 19 figs. + single-fold maps based on aerial photos and bound in. Mar. 1964. Sold by Supt. Documents. WR 114: 2
With a section on wildlife.

Flowers, Robbie L., and others. SOIL SURVEY OF FAYETTE COUNTY, TENNESSEE. SCS, Ser. 1960, no. 13. i + 71 p., 18 figs. + single-fold maps based on aerial photos and bound in. Mar. 1964. WR 114: 2
With a section on wildlife and fish.

Iseley, Erwin E., and others. SOIL SURVEY OF TREUTLEN COUNTY, GEORGIA. SCS, Ser. 1961, no. 3. i + 79 p., 15 figs. + single-fold maps based on aerial photos and bound in. Jan. 1964. Sold by Supt. Documents. WR 114: 2
Pages 38-44 devoted to a discussion of the suitability of different areas of Treutlen County for wildlife and fish.

Kester, Gerald, and others. SOIL SURVEY OF THE HOLBROOK-SHOW LOW AREA, ARIZONA. SCS, Ser. 1956, no. 22. i + 79 p., 20 figs. + folded maps based on aerial photos and bound in. Apr. 1964. Sold by Supt. Documents. WR 114: 2

Plantz, Merritt A., and Daniel L. Merkel. SOIL SURVEY OF HOOKER COUNTY, NEBRASKA. SCS, Ser. 1960, no. 16. i + 41 p., 22 figs. + single-fold maps based on aerial photos and bound in. Jan. 1964. Sold by Supt. Documents. WR 114: 2
With a section on wildlife and its management.

Thomas, Delbert D., and others. SOIL SURVEY OF PEPIN COUNTY, WISCONSIN. SCS, Ser. 1958, no. 29. i + 141 p., 12 figs. + folded maps based on aerial photos and bound in. Mar. 1964. Sold by Supt. Documents. WR 114: 2

Walker, G. O., and others. SOIL SURVEY OF WABASH COUNTY, ILLINOIS. SCS, Ser. 1957, no. 17. i + 84 p., 12 figs. + single-fold maps based on aerial photos and bound in. Feb. 1964. Sold by Supt. Documents. WR 114: 2
Includes a section on general management of soils used for wildlife.

CONSERVATION EDUCATION

Marckworth, Gordon D. STATISTICS FROM SCHOOLS OF FORESTRY FOR 1963: DEGREES GRANTED AND ENROLLMENTS. J. Forestry 62(5): 328-334. May 1964. WR 114: 2
[Univ. Washington, Seattle.] In 1963 at 41 forestry schools, degrees were granted in wildlife management as follows: bachelor's, 172; master's, 51; doctoral, 15. Wildlife management ranked second to general forestry in both undergraduate and graduate degrees, with 69% of undergraduate degrees in general forestry and 11% in wildlife management and 60% of graduate degrees in general forestry and 15% in wildlife management.

BIBLIOGRAPHIES, DIRECTORIES, BIOGRAPHY, HISTORY

Carlander, Kenneth D., and Milton W. Weller. SURVEY OF A LIFE'S WRITING -- PAUL L. ERRINGTON'S BIBLIOGRAPHY. Iowa State J. Sci. 38(4): 447-458. May 1964. WR 114: 3

[Iowa State Univ., Ames.] Includes a listing of 175 publications and 35 reviews.

PLANTS--FLORAS, COMMUNITIES, TAXONOMY

Hotchkiss, Neil. PONDWEEDS AND PONDWEEDLIKE PLANTS OF EASTERN NORTH AMERICA. US F&WS Circ. 187. [i] + 30 p., illus. May 1964. WR 114: 3

[Patuxent Wildl. Res. Center, Laurel, Md.] With drawings, ranges and brief descriptions for 27 pondweeds (Potamogeton) and 13 pondweed-like plants.

PLANTS--FOREST SURVEYS

Choate, Grover A. THE FORESTS OF WYOMING. U. S. Forest Serv. Resource Bull. INT-2. iii + 45 p., illus. 1963. WR 114: 3

[Intermountain Forest and Range Expt. Sta., Ogden, Utah.] The forest area is 9.8 million acres or 15.7% of the area of the state. On Wyoming national forests there has been a tenfold increase in outdoor recreation since 1946--a much more rapid rate than for the nation or the mountain states as a whole.--From summ.

Sternitzke, Herbert S. ALABAMA FORESTS. Southern Forest Expt. Sta., U. S. Forest Serv. Resources Bull. SO-3. iv + 32 p., illus. 1963. WR 114: 3

[Southern Forest Expt. Sta., New Orleans, La.] During 1953-63 the forest area of Ala. increased 5%, or one million acres, to 67% of the total area of the state. Land in farms declined some 20%.

WILDLIFE--BIOTAS, ECOLOGY, NATURAL HISTORY

Almăsan, H., C. Popescu, and G. Scărlătescu. BONITATEA TERENURILOR DE VÎNĂTOARE DIN R.P.R. PENTRU PRINCIPALELE SPECII DE VÎNAT. [QUALITY OF GAME GROUNDS IN THE R.P.R. FOR THE PRINCIPAL GAME SPECIES.] Studii si Cercetări 23-A: 5-34, 6 figs. [Mar. 1963.] In Rumanian with Russian, German and English summ. WR 114: 3

Game areas were rated and the principal game species for each area was determined. For all areas the ranking was: hare, roebuck, red deer, pheasant and chamois.

Savile, D. B. O., and D. R. Oliver. BIRD AND MAMMAL OBSERVATIONS AT HAZEN CAMP, NORTHERN ELLESMERE ISLAND, IN 1962. Canadian Field-Nat. 78(1): 1-7. Jan.-Mar. 1964. WR 114: 3

[Canada Dept. Agr., Ottawa, Ontario.] Observations are given on the population status of 18 spp. of birds and 7 spp. of mammals based on field work during June-Aug., 1962. In addition to the species accounts, there are general discussions of breeding bird densities and the effects of predation.

Serventy, D. L., and A. J. Marshall. A NATURAL HISTORY RECONNAISSANCE OF BARROW AND MONTEBELLO ISLANDS, 1958. CSIRO, Div. Wildl. Res. Tech. Pap. no. 6. 23 p. 1964. WR 114: 3

[Div. Wildl. Res., CSIRO, Nedlands, Western Australia.] With lists of plants, birds and mammals observed on Barrow and Montebello Islands (off the western Australian coast) in Sept. 1958.

WILDLIFE--NATURE PROTECTION & RARE & EXTINCT SPECIES

International Union for Conservation of Nature and Natural Resources. LIST OF RARE BIRDS, INCLUDING THOSE THOUGHT TO BE SO BUT OF WHICH DETAILED INFORMATION IS STILL LACKING / JANUARY 1964. Spec. Suppl. I.U.C.N. Bull. no. 10. 4 unnumbered pages. Jan.-Mar. 1964. WR 114: 4

[Morges pres Lausanne, Switzerland.] More than 300 forms are listed. North American forms include: trumpeter swan (Olor buccinator), giant Canada goose (Branta canadensis maxima), Aleutian Canada goose (Branta canadensis leucopareia), tule white-fronted goose (Anser albifrons gambelli), New Mexico duck (Anas diazi novimexicana), California condor (Gymnogyps californianus), Everglade kite (Rostrhamus sociabilis plumbeus), bald eagle (Haliaeetus leucocephalus leucocephalus), Guadalupe kestrel (Falco sparverius guadalupensis), greater prairie chicken (Tympanuchus cupido pinnatus), Attwater's prairie chicken (Tympanuchus cupido attwateri), masked bobwhite (Colinus virginianus ridgwayi), whooping crane (Grus americana), Florida sandhill crane (Grus canadensis pratensis), Eskimo curlew (Numenius borealis), Hudsonian godwit (Limosa haemastica), ivory-billed woodpecker (Campephilus principalis), Guadalupe rock wren (Salpinctes obsoletus guadeloupensis), Guadalupe kinglet (Regulus calendula obscura), Swainson's warbler (Limnothlypis swainsonii), Bachman's warbler (Vermivora bachmanii), golden-cheeked warbler (Dendroica chrysoparia), Kirtland's warbler (Dendroica kirtlandii), McGregor's house finch (Carpodacus mcgregori), Guadalupe house finch (Carpodacus amplus), Ipswich sparrow (Passerculus princeps), dusky seaside sparrow (Ammospiza nigrescens), Cape Sable sparrow (Ammospiza mirabilis), and Guadalupe junco (Junco insularis).

Voracek, Charles A. THE ZOO, A MODERN ARK. Explorer 6(1): 6-10, illus. Jan.-Feb. 1964. WR 114: 4

[Cleveland Zool. Soc., Cleveland, Ohio.] "The American Association of Zoological Parks and Aquariums, supplied with the IUCN [International Union for Conservation of Nature and Natural Resources] endangered-animals report, has allied itself with the goals of the IUCN, and has formed a Wild Animal Propagation Trust. This organization, consisting of zoos and animal propagation centers, will be dedicated to promoting the preservation of endangered animals for posterity through the use of captive management techniques. Among the techniques to be employed are: assembling and managing herds and flocks of vanishing species for reproduction and preservation; instituting research in nutrition, breeding, and artificial insemination; establishing a bank system for the transfer of animals to and from propagation centers and between zoos; encouraging continued breeding in local zoos and advising on preservation management through propagation."

WILDLIFE--EFFECTS OF CHEMICALS, WEATHER, CARS, ETC.

Bernard, Richard F., and Ronald A. Gaertner. SOME EFFECTS OF DDT ON REPRODUCTION IN MICE. J. Mammal. 45(2): 272-276. May 1964. WR 114: 4

[Wis. State Coll., Superior.] Adult laboratory mice (Mus musculus) fed diets of chick starter mash containing 100 to 300 ppm of DDT were able to survive for extended periods. However, breeding tests showed that the fertility of the mice declined following exposure to increased concentrations of DDT. Groups of mice exposed to levels of 200 and 300 ppm of DDT in the diet produced the same number of young per litter as the controls, but the number of females that produced no young was significantly greater in the group fed 300 ppm of DDT in the diet. It is concluded that reproductive failures in mice can occur following exposure to sublethal quantities of DDT.--From abstr.

Blackmore, D. K. THE TOXICITY OF SOME CHLORINATED HYDROCARBON INSECTICIDES TO BRITISH WILD FOXES (VULPES VULPES). J. Comp. Pathology & Therapeutics 73 (4): 391-409. 1963. WR 114: 5

[Petfoods Limited, Melton Mowbray, Leicestershire, England.] Conclusions: The increased mortality of British wild foxes in the spring of 1959 and 1960 was apparently due to insecticide poisoning. Foxes probably become intoxicated by eating birds that had died after eating dressed corn. The symptoms associated with chlorinated hydrocarbon insecticide poisoning are inappetance and convulsions. Foxes that had died as a result of insecticide poisoning lost condition and showed terminal convulsions. The post-mortem changes are haemorrhages in the lungs and non-inflammatory degenerative changes in the liver and kidney. Insecticide poisoning can be suspected if more than 1 p.p.m. of dieldrin and more than 4 p.p.m. of heptachlor epoxide are found in the flesh. Dieldrin is apparently capable of accumulation within the body for a long period.

Harp, George L., and Robert S. Campbell. EFFECTS OF THE HERBICIDE SILVEX ON BENTHOS OF A FARM POND. J. Wildl. Mgmt. 28(2): 308-317, 1 fig. Apr. 1964. WR 114: 5

[Univ. Mo., Columbia.]

Lockie, J. D., and D. A. Ratcliffe. INSECTICIDES AND SCOTTISH GOLDEN EAGLES. British Birds 57(3): 89-102. Mar. 1964. WR 114: 5

In a sample of 40 nests of the golden eagle (Aquila chrysaetos) checked during 1937-1960, 72% contained young. In a sample of 39 nests during 1961-1963, only 29% contained young. The recent high rate of nesting failure has included breaking of the eggs by the eagles and failure of the females to lay eggs. Ten eggs from 7 nests contained dieldrin, gamma-BHC and DDE. All but one had traces of heptachlor epoxide. Eagles probably got the insecticides, except the heptachlor, by eating carrion sheep after the sheep had been dipped in the insecticides. The heptachlor may be obtained by eating birds which have eaten the heptachlor on seed dressings. An appendix, by G. Hamilton, gives a description of the method used for chemical analysis.

St. Amant, Lyle S. MOSQUITOES-INSECTICIDES-WILDLIFE. La. Conserv. 16(3 & 4): 2-5, illus. Mar.-Apr. 1964. WR 114: 5

[Wild Life & Fisheries Comm., 400 Royal St., New Orleans, La.] The wetlands of La. support a fish, fur and recreational industry annually worth more than $100,000,000. More than 50,000 people depend on this area for a livelihood. Chemical control of mosquitoes poses a threat to the wetlands assets, and it is essential that mosquito control programs be coordinated with these other interests. The yellow fever mosquito (Anopheles quadrimaculatus) is common in La., but there are almost no cases of malaria from which it might transmit the disease. Hence, mosquitoes are considered a nuisance rather than an active health hazard.

Scărlătescu, G., E. Constaninescu, and V. Nesterov. CONTRIBUTII LA CUNOASTEREA INFLUENTEI INSECTICIDELOR UTILIZATE ÎN COMBATEREA DĂUNĂTORILOR PĂDURII ÎN R.P.R. ASUPRA VÎNATULUI. [ON THE INFLUENCE OF INSECTICIDES USED AGAINST HARMFUL AGENTS IN THE FOREST ON GAME STANDS.] Studii si Cercetări 23-A: 119-130. [Mar. 1963.] In Rumanian with Russian, German and English summ. WR 114: 5

Field and laboratory studies of the effects of DDT and benzene hexachloride on partridges, pheasants and hares.

WILDLIFE--PARASITES & DISEASES

Mundt, J. Orvin. OCCURRENCE OF ENTEROCOCCI IN ANIMALS IN A WILD ENVIRONMENT. Applied Microbiol. 11(2): 136-140. Mar. 1963. WR 114: 6

[Univ. Tenn., Knoxville.] Enterococci were obtained from the feces of 71% of 216 mammals, 86% of 70 reptiles, and 32% of 22 birds sampled from the Great Smoky Mountains National Park.--From abstr.

WILDLIFE--POPULATIONS & FLUCTUATIONS

Jenkins, James H., and Ernest E. Provost. THE POPULATION STATUS OF THE LARGER VERTEBRATES ON THE ATOMIC ENERGY COMMISSION SAVANNAH RIVER PLANT SITE. U. S. Atomic Energy Comm., TID-19562. iii + 45 p., 18 figs. Feb. 1964. $1.25. WR 114: 6

[Univ. Ga., Athens.] A survey of the fur and game animals on the 315 square-mile-area in Aiken and Barnwell counties, S. C.

WILDLIFE--TECHNIQUES

Abbott, Herschel G., and Allyn W. Coombs. A PHOTOELECTRIC 35-MM CAMERA DEVICE FOR RECORDING ANIMAL BEHAVIOR. J. Mammal. 45(2): 327-330, 1 fig., 1 pl. May 1964. WR 114: 6

[Univ. Mass., Amherst.] Some specialized accessories include a 50-foot capacity film magazine, an electric motor with a magnetic control that automatically advances the film and cocks the shutter following each exposure and a portable battery pack which supplies power for the electric motor. An accessory instrument shelter containing a clock and dial thermometer was inserted in the camera field.

Almăsan, H., and C. Popescu. RĂSPÎNDIREA SPECIILOR DE VÎNAT DIN R.P.R. [DISTRIBUTION OF GAME SPECIES IN THE R.P.R.] Studii si Cercetări 23-A: 35-49, 2 figs. [Mar. 1963.] In Rumanian with Russian, German and English summ. WR 114: 6

A discussion of the development and use of distribution maps for the 33 game species occurring in Rumania.

Andrews, Richard D. EFFECTS OF TEAR GAS ON SOME MAMMALS. J. Mammal. 45 (2): 321. May 1964. WR 114: 6

[Univ. Ill., Robbs.] Tear gas appeared to be unsatisfactory for use in forcing mammals from ground dens.

Bookhout, Theodore A., and Elsworth M. Harger. AN ACCURATE, INEXPENSIVE SCALE FOR LABORATORY USE. J. Mammal. 45(2): 313. May 1964. WR 114: 6

[Mich. Dept. Conserv., Shingleton.] Recommends use of powder and bullet scale manufactured by Redding-Hunter, Inc., 110 Starr Rd., Cortland, N. Y. The scale is guaranteed to be accurate to 0.006 of a gram and has a capacity of 21.06 grams. The price is about $13.00.

Kelker, George H., and William R. Hanson. SIMPLIFYING THE CALCULATION OF DIFFERENTIAL SURVIVAL OF AGE-CLASSES. J. Wildl. Mgmt. 28(2): 411. Apr. 1964. WR 114: 6

[Utah State Univ., Logan.]

Peterle, Tony J., and Robert H. Giles, Jr. NEW TRACER TECHNIQUES FOR EVALUATING THE EFFECTS OF AN INSECTICIDE ON THE ECOLOGY OF A FOREST FAUNA. Ohio State Univ. Res. Foundation, Report 1207-Final. xiv + 435 p., 66 figs. Jan. 1964. WR 114: 6

[Ohio State Univ., Columbus.] A study area was sprayed with malathion labeled with S^{35}, and the insecticide or its metabolites were later followed in plants, animals, air, soil, and water. Effects on various organisms were measured through use of appropriate sampling procedures. No effects from the insecticide were observed on bacteria or fungi. Soil microarthropods were affected for a short time. Earthworms and snails were unaffected. Fish and

crayfish, sensitive to malathion in tests, were unaffected in the stream environment. Arthropod numbers were greatly reduced, but, generally, rapid recovery was made. Reptiles and amphibians were unaffected. Birds reacted to the insecticide for 2 days but no lasting effects were noted. Mammal populations of mice and chipmunks were reduced from normal on the treated area. Shrews and larger mammals were apparently unaffected.--From summ.

Popescu, Cornel, and G. Scărlătescu. CRITERII PROVIZORII PENTRU DETERMINAREA BONITĂTII FONDURILOR DE VÎNĂTOARE DIN REPUBLICA POPULARĂ ROMÎNĂ. [TEMPORARY CRITERIA TO DETERMINE THE QUALITY OF THE HUNTING GROUNDS IN THE RUMANIAN PEOPLE'S REPUBLIC.] Studii si Cercetări 22-A: 85-128, 15 figs. [Aug. 1961.] In Rumanian with Russian, German and English summ. WR 114: 7

Sparks, Earl A. CUB AND 'COPTER. Utah Fish & Game 20(2): 4-5, illus. Mar.-Apr. 1964. WR 114: 7
[8535 S 1430 E, Sandy, Utah.] A brief popular article on the advantages of the helicopter over fixed-wing airplanes. Although the helicopter is better adapted to big game work, its operation costs are four times that of the fixed-wing airplane.

Taylor, J. Mary, and Henri Jean. RECHARGEABLE BATTERY POWER FOR A PORTABLE PHOTOGRAPHIC RECORDER. J. Wildl. Mgmt. 28(2): 406-408, 3 figs. Apr. 1964. WR 114: 7
[Wellesley Coll., Wellesley, Mass.]

Van Dyne, G. M., and J. H. Meyer. A METHOD FOR MEASUREMENT OF FORAGE INTAKE OF GRAZING LIVESTOCK USING MICRODIGESTION TECHNIQUES. J. Range Mgmt. 17 (4): 204-208. July 1964. WR 114: 7
[Health Physics Div., Oak Ridge Natl. Lab., Oak Ridge, Tenn.] Describes a new method for measuring forage intake of grazing animals.

Weiland, Edwin C. METHODS OF TRIPPING TRAPS WITH A SOLENOID. Inland Bird Banding News 36(1): 3-4, 7, 9, 8 figs. Jan.-Feb. 1964. WR 114: 7
[Box 97, Marquette, Mich.] With the use of a solenoid, pull-string-type traps were tripped by pressing a button. By bargain-hunting, a person can usually purchase a solenoid for $1.95 or less. Detailed drawings are given for installation of the solenoid.

WILDLIFE--INTRODUCTIONS

Bump, Gardiner, and Wayne H. Bohl. SUMMARY OF FOREIGN GAME BIRD PROPAGATION AND LIBERATIONS 1960 TO 1963. US F&WS, Spec. Sci. Rept.--Wildl. no. 80. vi + 48 p. Jan. 1964. WR 114: 7
Abstract: State reports covering the propagation and trial liberation of foreign game birds are summarized for the period 1960 through 1963. Details are then provided in tabular form. Of the 21 species and subspecies and 6 crosses reported, only the sandgrouse and the Himalayan snowcock have not yet been produced in numbers in captivity. Increasing consideration is being given to the production of well-reared birds conditioned for survival in the wild following release. In all, 78,217 individuals, mostly pheasants, are reported to have been raised for trial liberation from breeders provided through the Foreign Game Introduction Program. These releases supplement 16,145 birds wild-trapped and sent to cooperating States for trial release. While, for most species under trial, it is still too early to evaluate results, some are evident. Iranian pheasants, black francolin and gray francolin have demonstrated an ability to survive, reproduce and increase substantially on release areas. Conversely Indian sandgrouse and two other species have probably failed to adapt themselves and the semi-domestic strain of Reeve's pheasant is barely hanging on. Six other species are maintaining themselves in numbers sufficient to justify guarded optimism.

WILDLIFE--ECONOMIC & OTHER VALUES

Dasmann, Raymond F. AFRICAN GAME RANCHING. MacMillan Co. x + 75 p., illus., paper. Mar. 1964. $1.45. WR 114: 8

Supported by a Fulbright research grant, the author went to Africa in 1959 to do research on big game. The main research project involved comparison of income yield from wild game and domestic cattle on a 135,000-acre ranch in Rhodesia. Net income from game production was more than 6 times that from beef production. This book presents a thumbnail sketch of the African cattle-big game problem mingled with experiences and impressions which impart the interest-holding power of a travel story.

WILDLIFE--PREDATION, CROP DAMAGE, CONTROL

Atwell, Gerry. WOLF PREDATION ON CALF MOOSE. J. Mammal. 45(2): 313-314. May 1964. WR 114: 8

[Route B, Box 2200, Anchorage, Alaska.] Describes behavior of attacking wolf and defending cow and wounds of killed calf.

Balser, Donald S. MANAGEMENT OF PREDATOR POPULATIONS WITH ANTIFERTILITY AGENTS. J. Wildl. Mgmt. 28(2): 352-358. Apr. 1964. WR 114: 8

[U. S. Bur. Sport Fisheries & Wildl., Denver, Colo.] Abstract: The search for methods, other than lethal techniques, for controlling predatory animals causing economic losses to the livestock industry prompted investigation of antifertility agents to suppress reproduction. Diethylstilbestrol was selected for initial trials because of its demonstrated antifertility effect on rabbits, mink (Mustela vison), dogs, and cattle. In penned tests with stilbestrol, pregnancy was terminated in six coyotes (Canis latrans) fed a single 100-mg oral dose dissolved in tallow. A subsequent field trial was conducted in New Mexico on 20 townships, March 5-15, 1963. Five thousand (100 mg stilbestrol in 1/2 ounce of tallow) drop baits were placed wherever coyote sign was found. After a delay of 3 weeks to allow the drug to take effect, a collection of female tracts from the treated area and a reference area 25 miles away was made to measure and compare reproductive success. Of the 20 females in reproductive condition recovered from the treated area, only 4 had viable embryos, while reproduction was blocked in 16 specimens by failure of implantation or resorption of embryos. All of the 13 females in reproductive condition from the reference area would have produced pups as evidenced by viable embryos. Future tests are scheduled to determine effects on other species and to confirm results on coyotes under a variety of field conditions.

Batcheler, C. L., and P. C. Logan. ASSESSMENT OF AN ANIMAL-CONTROL CAMPAIGN IN THE HARPER-AVOCA CATCHMENT. New Zealand Forestry Res. Notes 27: 1-27. 1963. [From J. Mammal. 45(2), 1964.] WR 114: 8

Bley Game Advisory Station. ENEMIES OF GAME / SOME CONTROL METHODS FOR PREDATORS. Bley Game Advisory Serv. (formerly I.C.I. Game Serv.), Booklet 17. 16 p., illus. Revised Spring 1964. WR 114: 8

[Fordingbridge, Hampshire, England.] Types of traps and trapping methods for control of predatory mammals.

Nickell, Walter P. SOME MAMMAL PREDATORS IN A COLONY OF COMMON TERNS. Bird-Banding 35(1): 40. Jan. 1964. WR 114: 8

[Cranbrook Inst. Sci., Bloomfield Hills, Mich.] A much-mutilated, though live, Norway rat was found in a tern nesting colony where some dead and partly eaten adult and young terns were found. The mutilated condition of the rat was thought to have been caused by pecking of adult terns, and when experimentally released, the rat was immediately attacked by at least 25 adult terns.

Pearson, Oliver P. CARNIVORE-MOUSE PREDATION: AN EXAMPLE OF ITS INTENSITY AND BIOENERGETICS. J. Mammal. 45(2): 177-188, 5 figs., 1 pl. May 1964. WR 114: 9

[Univ. Calif., Berkeley.] The peak population of mice could not have survived for one year on the available seed crop. The carnivores ate 55% of the calories available as mice and could have survived a full year if all mice had remained available to them, but by the end of Dec. so many mice had been lost to other agents of mortality and by emigration that only a 12-day supply remained. In spite of the initial high density of mice, 7% of the seed crop escaped destruction and grew to form a rich vegetation in the following season. --From abstr.

Pringle, Laurence. FISHER VS. DEER. N. Y. Fish & Game J. 11(1): 67. Jan. 1964. WR 114: 9

[Am. Museum Nat. Hist., New York, N. Y.] Report of a fisher "about the size of a small fox" biting and clawing the back and sides of a fawn which was "only a few days old."

Schnell, Jay H. A MINK EXTERMINATES AN INSULAR COTTON RAT POPULATION. J. Mammal. 45(2): 305-306, 1 fig. May 1964. WR 114: 9

[Univ. Ga., Athens.] A total of 40 cotton rats (Sigmodon hispidus) were released on an island with a stand of 1.7 acres of broomsedge (Andropogon virginicus), and only 1 of the rats was trapped about 2 months after release. Ten of the rat carcasses were found in a mink den.

WILDLIFE--REPORTS OF ORGANIZATIONS & REPORTS OF HARVESTS

de Courcy-Ireland, B. W., secretary. THE GAME RESEARCH ASSOCIATION / ANNUAL REPORT FOR 1963. xix + 79 p., illus. [1964.] WR 114: 9

[53 Northbrook St., Newbury, Berkshire, England.] Contains 9 research reports as follows: Survey of game bird diseases, M. B. Jones; Fowl pest (Newcastle Disease) in pheasants, M. B. Jones; Trials with thiabendazole as a cure for gapes in game birds, G. I. Sharpe; Trials to measure the effects of a normal Mercury/gamma BHC seed-dressing on breeding pheasants, J. S. Ash and A. Taylor; The effects of pesticides on game and other wildlife in 1963, J. S. Ash; National game census, A. D. Middleton; Wing-tagging results in the 1962/3 season, G. Howells; Preliminary results of a pheasant population study, G. Howells.

WETLANDS & WILDLIFE

Bailey, Robert S., and Dexter S. Haven. MILFOIL / A FRILLY WEED THAT RUINS YOUR SPORT. Va. Wildl. 25(3): 14-16, illus. Mar. 1964. WR 114: 9

[Inst. Marine Sci., Gloucester Point, Va.] The most satisfactory chemical control yet tested is 2, 4-D impregnated on clay pellets and applied with a cyclone seeder at the rate of 100 pounds/acre in late May or early June. Further testing is needed before the treatment can be generally recommended.

Harrison, Dale E., and Ernest O. Beal. THE LEMNACEAE (DUCKWEEDS) OF NORTH CAROLINA. J. Elisha Mitchell Sci. Soc. 80(1): 12-18, 2 figs. May 1964. WR 114: 9

[N. C. State Univ., Raleigh.]

Seaman, D. E., and W. A. Porterfield. CONTROL OF AQUATIC WEEDS BY THE SNAIL MARISA CORNUARIETIS. Weeds 12(2): 87-92, 5 figs. Apr. 1964. WR 114: 9

[Univ. Calif., Davis.] Abstract: Experiments were conducted in 200-gal concrete tanks to evaluate a large fresh-water snail, Marisa cornuarietis, as a biological aquatic weed control agent. Adult Marisa snails were collected from a canal near Miami, Florida, where a colony had recently become established. These snails are of South American origin and appear identical to those being used in Puerto Rico for biological control of schistosomiasis. The snails

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controlled Ceratophyllum demersum, Najas guadalupensis, and Potamogeton illinoensis completely and Pistia stratiotes and Alternanthera philoxeroides partially. Eichhornia crassipes was not completely eaten, but its growth and flowering were greatly retarded by the root-pruning action of the snails. Marisa preferred submersed weeds to floating or emersed weeds, but the floating weed Salvinia rotundifolia was eaten nearly as readily as submersed weeds. Little damage was done by Marisa to 4- and 5-week-old rice plants, but younger rice was killed when the snails had no other source of food. A common snail-eating bird, Cassidix mexicanus, was found to be a predator of Marisa in Florida. Except for its possible deleterious effects in rice-growing areas, Marisa was regarded as very promising for control of aquatic weeds at least in confined bodies of water.

FARMLAND & WILDLIFE

Weeks, Norris L. FOOD AND COVER / TWELVE YEARS OF FARM GAME HABITAT WORK. N. J. Outdoors 14(11): 14-21, illus. May 1964. WR 114: 10

[N. J. Div. Fish & Game, Trenton.] A popular account of the program in N. J. from 1948 to date on farm game habitat work under the Pittman-Robertson Act.

RANGELAND & WILDLIFE

Heady, Harold F. PALATABILITY OF HERBAGE AND ANIMAL PREFERENCE. J. Range Mgmt. 17(2): 76-82. Mar. 1964. WR 114: 10

[Univ. Calif., Berkeley.] A review of research on food selection by grazing animals. With more than 60 references.

FORESTLAND--FORESTRY & ECOLOGY

Prunty, Merle, Jr. THE WOODLAND PLANTATION AS A CONTEMPORARY OCCUPANCE TYPE IN THE SOUTH. Geographical Rev. 53(1): 1-21, 12 figs. Jan. 1963. WR 114: 10

[Univ. Ga., Athens.] An account of the shift in southeastern U. S. from cotton and rice farming to production of timber crops. With the change to timber production, there has been an increase in management for bobwhite quail. It was found that optimum quail production requires essentially the same land management as superior timber production.

Southeastern Forest Experiment Station. 1963 RESEARCH AT THE SOUTHEASTERN FOREST EXPERIMENT STATION. USDA, Forest Serv. 74 p., illus. [1964.] WR 114: 10

[SE Forest Expt. Sta., Asheville, N. C.] Gathering Information on Deer Range (p. 18-19), Hunting (p. 42-44) and Quail--A Valuable Piney Woods Resource (p. 45-48) are of interest to wildlifers.

FORESTLAND--MANAGEMENT FOR & DAMAGE BY WILDLIFE

Komarek, E. V., Sr. THE USE OF FIRE IN WILDLAND MANAGEMENT. Proc. 7th Ann. Ariz. Watershed Symposium. p. 23-30, 3 figs. [1964]. WR 114: 10

[Tall Timbers Res. Sta., Tallahasse, Fla.] A discussion of the use of controlled burning in forestry, range and game management.

Scholz, Harold F. SEEDING AND PLANTING TESTS OF NORTHERN RED OAK IN WISCONSIN. U. S. Forest Serv. Res. Paper LS-7. 7 p., 4 figs. Apr. 1964. WR 114: 10

[Lake States Forest Expt. Sta., St. Paul, Minn.] Abstract: A 10-year study in southwestern Wisconsin shows that it is feasible to regenerate northern red oak by direct seedings or by planting 1-0 or 2-0 nursery stock. The acorns in

about 20 percent of the unprotected seed spots were eaten by rodents, but if such losses are unacceptable they can be virtually eliminated by wire screens. Wild animals and overtopping vegetation killed or suppressed some of the small oaks during the post-establishment years. However, such damage was reduced substantially by rabbit-tight fences and by annually cutting the competing vegetation back to the ground.

Vogl, Richard J. THE EFFECTS OF FIRE ON A MUSKEG IN NORTHERN WISCONSIN. J. Wildl. Mgmt. 28(2): 317-329, 5 figs. Apr. 1964. WR 114: 11
[Los Angeles State Coll., Los Angeles, Calif.] Abstract: The effects of prescribed burning on the vegetation of Powell-Flambeau Marsh were studied during summers of the years 1959 through 1962. This area, located in north-central Wisconsin, is a hybrid community of open sphagnum bog or treeless muskeg and sedge meadows. The marsh is being managed to increase its productivity for wildlife, particularly for geese, ducks, sharp-tailed grouse (Pedioecetes phasianellus), and white-tailed deer (Odocoileus virginianus). The burning was analyzed quantitatively using 14 paired stands, one member of each pair being an unburned control adjacent to the burned area. The vegetation within each stand was sampled using quadrat frequency studies. To evaluate the effects of fire, all plant species were divided into groups called increasers, decreasers, neutrals, invaders, or retreaters, depending upon their responses to fire as reflected in average percent frequency changes. Results indicated that prescribed burning produces a conversion or retrogression from conifer swamp dominated by trees to open sphagnum bog or muskeg dominated by sedges and ericaceous shrubs. The muskeg may be changed further to northern sedge meadows, dominated by sedges and supporting a minimum of woody vegetation. This sedge meadows successional stage is considered more desirable than the other types because it allows the greatest movement, feeding, and nesting of game birds. Fire also improves game habitat by reducing the "rough" of woody and nonwoody plants, stimulating new and palatable growth, and increasing fruit and seed production.

STRIPPED LAND & MISCELLANEOUS HABITATS

Bauer, Edwin A. AMERICA'S REAL RED MENACE. Sports Afield 150(6): 17-19, 68-69, illus. Dec. 1963. WR 114: 11
A moving account of the rape of the land by coal strip miners in Ohio, Ky., Pa., Tenn., W. Va., Va., and Ala. "In 1960 a total of almost 24 million tons of coal was produced from 265 strip mines in Ohio alone. Gross value of the coal was estimated at $86,935,171.96. But the operators of these mines were given a subsidy of $8,335,267.86 as a ten-percent depletion allowance."

Whitesell, Dale E. RECLAIM FOR GAME. Ohio Conserv. Bull. 28(4): 18-20, illus. Apr. 1964. WR 114: 11
[Ohio Dept. Nat. Resources, 1500 Dublin Rd., Columbus.] "Ohio coal strip mine operators have rallied to Gov. James A. Rhodes' call to private interests to develop, as rapidly as possible, outdoor recreation facilities to meet the increased demands of the state's fast-growing army of outdoorsmen.... Biological research shows that ground game, birds, and fish thrive better on reclaimed coal strip lands than on agricultural lands which are worn out by continued planting without proper management."

CONTROL OF VEGETATION WITH HERBICIDES, ETC.

Day, Maurice W. THE EFFECTIVENESS OF SEVERAL CHEMICALS AND METHODS FOR KILLING CULL TREES. Quart. Bull. (Mich. State Univ., Agr. Expt. Sta.) 46(3): 407-411. Feb. 1964. WR 114: 11
Abstract: Several chemical formulations of 2,4-D and 2,4,5-T as esters and amines were applied to aspen, red maple, white pine, and alder to determine their killing effectiveness as a possible culling method. The hatchet and oil

can method and a tree injector were used in making the applications. Concentrated 2,4-D amine gave good results with aspen by either method if the distance between gaps was kept to one inch. Red maple required full strength 2,4,5-T amine or concentrated ester in edge-to-edge cuts. Alder had 100 percent kill by all methods used, and white pine was somewhat more resistant to treatment than aspen.

MAMMALS--GENERAL

Huxley, Elspeth. MAMMAL MIGRATION POSES PROBLEMS IN TANGANYIKA'S SERENGETI NATIONAL PARK. Natl. Parks Magazine 38(200): 10-14, illus. May 1964. WR 114: 12

The 350,000-400,000 zebras and wildebeest in the Serengeti National Park travel up to 1,000 miles in their annual quest for food. Their travels take them outside of the park during 6 months of the year. More than a million animals may be harvested each year by Tanganyika citizens, with a significant contingent being from the Serengeti Park population.

Rukovskij, N. N. [EFFECT OF THE PERIODICITY OF PINUS KORAIENSIS FRUITING ON THE MAMMALS IN EASTERN SIKHOTE-ALIN.] Zool. Zhur. (Moscow) 42(11): 1741-1742. 1963. [From Commonwealth Forestry Bur., Centralized Title Serv. Cards, 9 Mar. 1964. In Russian with English summ.] WR 114: 12

A study in 1958-61 showed that almost all the 55 species of mammals in the area depend to a certain degree on the fruiting of P. koraiensis. Changes and movements in mammal populations in relation to fruiting periodicity are briefly discussed.--Courtesy/ Frank M. Johnson.

Sun, J.-Y., and others. [VERTICAL DISTRIBUTION OF SMALL MAMMALS IN THE FORESTS OF THE N. PART OF THE CHANGKWANSAI LING RANGE. I.] Acta Zool. Sinica (Peking) 14(1): 21-36. 1962. [From Commonwealth Forestry Bur., Centralized Title Serv. Cards, 9 Mar. 1964. In Chinese with Russian summ.] WR 114: 12

Courtesy/ Frank M. Johnson.

Sun, J.-Y., and others. [VERTICAL DISTRIBUTION OF SMALL MAMMALS IN THE FORESTS OF THE N. PART OF THE CHANGKWANSAI LING RANGE. II.] Acta Zool. Sinica (Peking) 14(2): 165-174. 1962. [From Commonwealth Forestry Bur., Centralized Title Serv. Cards, 9 Mar. 1964. In Chinese with Russian summ.] WR 114: 12

Courtesy/ Frank M. Johnson.

Wagg, J. W. B. NOTES ON FOOD HABITS OF SMALL MAMMALS OF THE WHITE SPRUCE FOREST [IN CANADA]. For. Chron. 39(4): 436-445. 1963. [From Commonwealth Forestry Bur., Centralized Title Serv. Cards, 17 Feb. 1964. In English with French summ.] WR 114: 12

Courtesy/ Frank M. Johnson.

MAMMALS--FAUNAS AND MANUALS

Pirlot, Paul. ALGUNAS CONSIDERACIONES SOBRE LA ECOLOGIA DE LOS MAMIFEROS DEL OESTE DE VENEZUELA. [SOME CONSIDERATIONS UPON THE ECOLOGY OF THE MAMMALS OF WESTERN VENEZUELA.] Kasmera 1(3): 169-214, 24 figs. 1963. [In Spanish with French and English summ.] WR 114: 12

[Univ. Montreal, Canada.] Ecological comments on the 300 mammals of 32 genera that were collected during 1963.

MAMMALS--POPULATIONS, HOME RANGES, COMMUNITIES

White, James E. AN INDEX OF THE RANGE OF ACTIVITY. Am. Midland Nat. 71 (2): 369-373, 2 figs. Apr. 1964. WR 114: 12

[Rutgers Univ., New Brunswick, N. J.] Abstract: The value of obtaining the range of activity by a statistical technique is emphasized. This technique

permits statistical comparison of the normal range of movement of individual animals, different sexes, and different species. In addition, this technique permits comparison of the normal range of movement of animal populations of different study areas, within the same study area from year to year, and more importantly from one study to another. Examples of the use of this technique show range of animal activity is associated with population size and sex.

MAMMALS--PARASITES AND DISEASES

Sharpe, G. I. THE HELMINTH PARASITES OF SOME SMALL MAMMAL COMMUNITIES. I. THE PARASITES AND THEIR HOSTS. Parasitology 54(1): 145-154. Feb. 1964. WR 114: 13

[Game Res. Assoc., Fordingbridge, Hampshire, England.] Parasites found in Apodemus sylvaticus, Clethrionomys glareolus, Microtus agrestis and Sorex araneus are listed.

SHREWS, MOLES, BATS

Ansell, W. F. H. CAPTIVITY BEHAVIOUR AND POST-NATAL DEVELOPMENT OF THE SHREW CROCIDURA BICOLOR. Proc. Zool. Soc. London 142(1): 123-127. Jan. 1964. WR 114: 13

[Game & Fisheries Dept., Northern Rhodesia.] Covers feeding, birth of young, caravanning, and weaning.

Beauregard, M., and R. C. Stewart. BAT RABIES IN ONTARIO. Canadian J. Comp. Med. & Vet. Sci. 28(2): 43-45, 1 fig. Feb. 1964. WR 114: 13

[Animal Disease Res. Inst., Hull, Quebec, Canada.] Among 72 bats from 24 counties in Ontario, 5 big brown bats (Eptesicus fuscus) were found to be infected with rabies.--From abstr.

Breeden, Kay. FRUCTIVOROUS FLIERS / AUSTRALIAN FRUIT BATS TAKE WING AT DUSK IN SORTIES AFTER FOOD. Nat. Hist. 73(5): 26-33, illus. May 1964. WR 114: 13

[Univ. Queensland, Brisbane, Australia.] A well-illustrated popular article based on 2 years of periodic field work by the author.

Buckner, Charles H. METABOLISM, FOOD CAPACITY, AND FEEDING BEHAVIOR IN FOUR SPECIES OF SHREWS. Canadian J. Zool. 42(2): 259-279, 2 figs. Mar. 1964. WR 114: 13

[Forest Entomology Lab., Box 6300, Winnipeg 1, Manitoba, Canada.] Based on metabolic requirements, it was calculated that the minimum daily food consumption of Sorex cinereus, S. arcticus, Microsorex hoyi, and Blarina brevicauda would be respectively, 87, 123, 98 and 150 larch sawfly (Pristiphora erichsonii) cocoons. When available, the larch sawfly comprises more than 70% of the diet of shrews.

Hall, John S., and Charles H. Blewett. BAT REMAINS IN OWL PELLETS FROM MISSOURI. J. Mammal. 45(2): 303-304. May 1964. WR 114: 13

[Albright Coll., Reading, Pa.] Pellets from the roost of an unidentified owl showed heavy predation on bats of the genus Myotis.

Hayward, Bruce, and Russell Davis. FLIGHT SPEEDS IN WESTERN BATS. J. Mammal. 45(2): 236-242, 1 fig. May 1964. WR 114: 13

[N. Mex. Western Coll., Silver City.] Abstract: By using a simulated mine tunnel, the average speed and individual variation of 17 western bats were determined. Eptesicus fuscus showed the maximum speed of those tested (15.5 mph), whereas Pipistrellus hesperus showed the minimum value (4.8 mph). In many species speed of flight is correlated with the size of the bat.

Hoffmeister, Donald F., and William L. Downes, Jr. BLUE JAYS AS PREDATORS OF RED BATS. Southwestern Nat. 9(2): 102. 15 May 1964. WR 114: 14
[Univ. Ill., Urbana.] Reports of three instances of red bats (Lasiurus borealis) being attacked by blue jays (Cyanocitta cristata) supplemented by three additional cases from literature.

Manville, Richard H. ACCIDENTAL MORTALITY IN BATS. Mammalia (Paris) 27 (3): 361-366. Sept. 1963. [From J. Mammal. 45(2), 1964.] WR 114: 14

Ogilvie, Philip W., and Marilyn Bailey Ogilvie. OBSERVATIONS OF A ROOST OF YELLOW OR GIANT FRUIT-EATING BATS, EIDOLON HELVUM. J. Mammal. 45(2): 309-311. May 1964. WR 114: 14
[Makerere Univ. Coll., Kampala, Uganda.] Observations on ecology and behavior of roosting bats.

Taylor, John. NOTEWORTHY PREDATION ON THE GUANO BAT. J. Mammal. 45(2): 300-301. May 1964. WR 114: 14
[Southeastern State Coll., Durant, Okla.] A great horned owl preyed heavily and 3 Miss. kites and 1 barn owl preyed lightly on Mexican free-tailed bats (Tadarida brasiliensis).

RABBITS AND PIKAS

Bookhout, Theodore A. PRENATAL DEVELOPMENT OF SNOWSHOE HARES. J. Wildl. Mgmt. 28(2): 338-345, 2 figs. Apr. 1964. WR 114: 14
[Natural Resources Inst., Univ. Md., LaVale.] Conclusions are: (1) the age of wild-collected prenatal hares can be estimated to within 1 day of true age using growth curves for weight and length; and (2) morphological characters are useful in aging where individuals of a litter exhibit wide variation in weights and lengths.--From abstr.

Chang, M. C., J. H. Marston, and Dorothy M. Hunt. RECIPROCAL FERTILIZATION BETWEEN THE DOMESTICATED RABBIT AND THE SNOWSHOE HARE WITH SPECIAL REFERENCE TO INSEMINATION OF RABBITS WITH AN EQUAL NUMBER OF HARE AND RABBIT SPERMATOZOA. J. Exptl. Zool. 155(3): 437-445, 9 figs. on 1 pl. Apr. 1964. WR 114: 14

de Vos, Antoon. FOOD UTILIZATION OF SNOWSHOE HARES ON MANITOULIN ISLAND, ONTARIO. J. Forestry 62(4): 238-244, 3 figs. Apr. 1964. WR 114: 14
[Ontario Agr. Coll., Guelph, Canada.] Forty-four spp. of trees and shrubs were browsed. Snowshoe hares may affect the availability of food and plant composition by preferentially feeding on certain species resulting in a differential survival of plants utilized.--From abstr.

Hewson, Raymond. MOULTS AND PELAGES IN THE BROWN HARE LEPUS EUROPAEUS OCCIDENTALIS DE WINTON. Proc. Zool. Soc. London 141(4): 677-687. Dec. 1963. WR 114: 14
[Keith, Banffshire, Scotland.] The adult brown hare molts twice annually, and molting of brown (Lepus europaeus occidentalis) and mountain (Lepus timidus scoticus) hares may vary with age and sex. The influence on molt of day length, temperature and endocrine glands is discussed.--From abstr.

Lord, Rexford D., Jr. SEASONAL CHANGES IN THE ACTIVITY OF PENNED COTTONTAIL RABBITS. Animal Behaviour 12(1): 38-41, 3 figs. Jan. 1964. WR 114: 14
[Communicable Disease Center, U. S. Public Health Serv., Atlanta, Ga.] Movements of cottontails within a cage were not regulated by the onset of darkness, but there was an increase in duration of activity in summer when the nights were shortest. Activity was greatest in Apr. and lowest in Jan. It was suggested that food assimilation may provide the endogenous clock for regulating the daily activity pattern.--From summ.

Marsden, Halsey M., and Nicholas R. Holler. SOCIAL BEHAVIOR IN CONFINED POPULATIONS OF THE COTTONTAIL AND THE SWAMP RABBIT. Wildl. Monographs no. 13. 39 p., 10 figs., 1 pl. Apr. 1964. WR 114: 15
[Roscoe B. Jackson Memorial Lab., Bar Harbor, Maine.] Covers nonsocial behavior, social behavior, social organization and the reproductive cycle, comparison of behavior and social structure of cottontail and swamp rabbit populations.

Myers, K., and W. E. Poole. A STUDY OF THE BIOLOGY OF THE WILD RABBIT, ORYCTOLAGUS CUNICULUS (L.), IN CONFINED POPULATIONS. V. POPULATION DYNAMICS. CSIRO Wildl. Res. 8(2): 166-203, 17 figs. Dec. 1963. WR 114: 15
[Div. Wildl. Res., CSIRO, Canberra, Australia.] Summary: In confined areas, populations of the rabbit possess no inbuilt behavioural or physiological mechanisms capable of regulating numbers at levels below the food ceiling. Despite density-related changes in fecundity, mortality, and social stress, rabbits breed up to the limit of their food resources, and then catastrophic losses occur, due to starvation. The magnitude and frequency of oscillations in numbers are dependent upon seasonal availability of food supplies.

Packard, Robert L. DISTRIBUTION OF THE BLACK-TAILED JACKRABBIT IN EASTERN TEXAS. Texas J. Sci. 15(1): 107-110. Mar. 1963. [From J. Mammal. 45(2), 1964.] WR 114: 15

Poole, W. E. FIELD ENCLOSURE EXPERIMENTS ON THE TECHNIQUE OF POISONING THE RABBIT, ORYCTOLAGUS CUNICULUS (L.) V. A STUDY OF CONCENTRATION OF "1080" IN BAIT MATERIAL. CSIRO Wildl. Res. 8(2): 154-165, 1 fig. Dec. 1963. WR 114: 15
[Div. Wildl. Res., CSIRO, Canberra, Australia.] Carrot containing 0.02% "1080" proved a successful bait when preceded by free-feeding and no increase of bait relative to the amount needed when the poison strength was 0.04% was necessary to achieve high kills. Poisoning is not recommended during wet weather which restricts normal activities of rabbits, and leaching of poison from the bait may possibly lead to the development of bait-shyness as was suspected when carrot containing 0.01% "1080" was direct fed during wet weather. The risks involved in reducing concentration of "1080" below 0.02% would not be worth any saving in cost. Oat grains proved less reliable bait than carrot in the summer months.--From summ.

Rowley, Ian. FIELD ENCLOSURE EXPERIMENTS ON THE TECHNIQUE OF POISONING THE RABBIT, ORYCTOLAGUS CUNICULUS (L.). IV. A STUDY OF SHYNESS IN WILD RABBITS SUBJECTED TO "1080" POISONING. CSIRO Wildl. Res. 8(2): 142-153, 3 figs. + 1 pl. Dec. 1963. WR 114: 15
[Div. Wildl. Res., CSIRO, Canberra, Australia.] Summary: Shyness to both bait and poison was developed in only a small proportion of wild rabbits subjected to experimental poisoning with sodium fluoroacetate ("1080"). The duration of this avoidance reaction did not exceed 3 weeks. The small proportion of the animals which developed shyness does not account for the gross failures experienced in the field when free-feeding was omitted; it is suggested that the survivors under these conditions are mainly animals which have failed to recognize the bait as a food material. The importance of adequate free-feeding before poison is added to the bait material is emphasized.

Scărlătescu, G., H. Almăsan, and V. Nesterov. CONTRIBUTII LA CUNOASTEREA BIOLOGIEI IEPURELUI ÎN R.P.R. [ON THE BIOLOGY OF THE HARE IN THE R.P.R.] Studii si Cercetări 23-A: 97-118, 4 figs. [Mar. 1963.] In Rumanian with Russian, German and English summ. WR 114: 15
The breeding period extends from Jan. to late Aug., and does may have 4 litters in a year. The average number of embryos/pregnant female was 3.3. It is indicated that the actual production is much lower than potential.

Watson, Adam. THE EFFECT OF CLIMATE ON THE COLOUR CHANGES OF MOUNTAIN HARES IN SCOTLAND. Proc. Zool. Soc. London 141(4): 823-835, 3 figs. Dec. 1963. WR 114: 16

[Univ. Aberdeen, Aberdeen, Scotland.] Color changes of mountain hares (Lepus timidus) were retarded in cold springs and advanced in mild springs. Hares at high altitudes turned white earlier and more completely in the fall than hares at lower altitudes, and those at high altitudes were relatively retarded in the spring. Late-born young turned white later in the fall than full grown animals.--From abstr.

Williams, C. E. SOIL FERTILITY AND COTTONTAIL BODY WEIGHT: A RE-EXAMINATION. J. Wildl. Mgmt. 28(2): 329-338, 5 figs. Apr. 1964. WR 114: 16

[Southeast Mo. State Coll., Cape Girardeau.] Abstract: In this study of the cottontail rabbit (Sylvilagus floridanus), the relationship between soil fertility and body weight was investigated. Five soil series in Stoddard County in southeastern Missouri were rated according to soil fertility, and the home range of the cottontail was considered in delimiting collecting areas on these soils. Cottontails were collected over a 3-month period by shooting, and each rabbit was weighed and its sex and lens weight determined. Rabbits were grouped according to sex and lens weight, and intersoil comparisons of body weight were made. No significant difference in body weight was evident for cottontail rabbits collected from soils of contrasting fertility.

RODENTS--MISCELLANEOUS

Brown, L. N. ECOLOGY OF THREE SPECIES OF PEROMYSCUS FROM SOUTHERN MISSOURI. J. Mammal. 45(2): 189-202, 3 figs., 3 pls. May 1964. WR 114: 16

[Univ. Mo., Columbia.] P. leucopus were found to inhabit hardwood forests, P. maniculatus grasslands and P. boylii juniper-grass glades. Food habits and water requirements of the 3 spp. were generally the same, and it was concluded that population separations result from behavioral differences rather than from detectable differences in physiological needs.

Brown, L. N., and C. H. Conaway. PERSISTENCE OF CORPORA LUTEA AT THE END OF THE BREEDING SEASON IN PEROMYSCUS. J. Mammal. 45(2): 260-265, 1 pl. May 1964. WR 114: 16

[Univ. Mo., Columbia.] The use of the gross presence of corpora lutea in ovaries of Peromyscus as an indicator of breeding condition cannot be considered valid during declines in reproductive activity.--From abstr.

Carmon, J. L., F. B. Golley, and T. E. Kennedy. A RAPID TECHNIQUE FOR IDENTIFYING YOUNG MICE. J. Mammal. 45(2): 306-307. May 1964. WR 114: 16

[Univ. Ga., Athens.] Day-old mice were marked by putting India ink under the skin of the tail or feet with the use of a small hypodermic needle. The ink spot remained visible until the toes became large enough to be clipped.

Chew, Robert M., and Bernard B. Butterworth. ECOLOGY OF RODENTS IN INDIAN COVE (MOHAVE DESERT), JOSHUA TREE NATIONAL MONUMENT, CALIFORNIA. J. Mammal. 45 (2): 203-225, 7 figs. May 1964. WR 114: 16

[Univ. Southern Calif., Los Angeles.] Contains information on population density, home range, time of activity, trap usage, reproduction, body weight and persistence of marked individuals.

Gentry, John B. HOMING IN THE OLD-FIELD MOUSE. J. Mammal. 45(2): 276-283, 4 figs. May 1964. WR 114: 16

[Lab. Radiation Ecol., Savannah River Operations Office, Aiken, S. C.] Homing was successful in 31 of 39 old-field mice (Peromyscus polionotus) released from the center of a 9-acre plowed field 340-640 feet from trap sites in occupied habitat surrounding the field. Ninety-one per cent of the homing animals returned the first night; 60% returned by midnight. The animals, following release during the daytime, exhibited a sequence of behavior directed toward finding shelter. After dark, the mice moved toward their home range.--From abstr.

Hsia, W.-P., and S.-K. Chu. [A SUPPLEMENTARY STUDY ON THE CHANGING TENDENCIES OF THE RODENT POPULATION IN THE RECENT CUT-OVER LAND AT DAILING, N.E. CHINA.] Acta Zool. Sinica (Peking) 15(4): 537-543. 1963. [From Commonwealth Forestry Bur., Centralized Title Serv. Cards, 9 Mar. 1964. In Chinese with English summ.] WR 114: 17
Courtesy/ Frank M. Johnson.

Johnson, Donald R. EFFECTS OF RANGE TREATMENT WITH 2,4-D ON FOOD HABITS OF RODENTS. Ecology 45(2): 241-249, 3 figs. Spring 1964. WR 114: 17
[Ft. Lewis A & M Coll., Durango, Colo.] Grass seeds comprised a larger proportion and forb and shrub seeds a smaller proportion of the diet of deer mice (Peromyscus maniculatus) on areas treated with 2,4-D than on untreated areas. The 2,4-D treatment had little effect on diets of least chipmunks (Eutamias minimus) and montane voles (Microtus montanus). No competition for food was observed among deer mice, least chipmunks, and montane voles.--From abstr.

Löhrl, Hans. ZUM HERBSTGEWICHT FREILEBENDER SIEBENSCHLÄFER (GLIS GLIS L.). [ON THE AUTUMN WEIGHT OF FREE-LIVING DORMICE (GLIS GLIS L.).] Z. Säugetierk. 28(5): 315-316. Sept. 1963. [From J. Mammal. 45(2), 1964. In German.] WR 114: 17

Miller, Richard S. ECOLOGY AND DISTRIBUTION OF POCKET GOPHERS (GEOMYIDAE) IN COLORADO. Ecology 45(2): 256-272, 6 figs. Spring 1964. WR 114: 17
[Univ. Saskatchewan, Saskatoon, Saskatchewan, Canada.] All 4 spp. of gophers in Colo. (Geomys bursarius, Cratogeomys castanops, Thomomys bottae and Thomomys talpoides) prefer deep light soils, but their ranges of tolerance differ. In each combination of competitive relationships the species with the strictest niche requirements is the superior competitor and is able to displace other species to less favorable habitats.

Neumann, Richard, and Tom J. Cade. PHOTOPERIODIC INFLUENCE ON THE HIBERNATION OF JUMPING MICE. Ecology 45(2): 382-384, 2 figs. Spring 1964. WR 114: 17
[Syracuse Univ., Syracuse, N. Y.] The mice on short days fattened before hibernation, and they hibernated for longer periods (mean of 9.4 days) and were awake for shorter intervals (mean of 1.5 days) between bouts of hibernation than the long-day mice which hibernated for mean periods of 3.3 days and were awake for an interval of 2.9 days between bouts of hibernation. The long-day mice did not fatten before hibernation but lost weight until death ensued.--From abstr.

Rowe, F. P., and E. J. Taylor. THE NUMBERS OF HARVEST-MICE (MICROMYS MINUTUS) IN CORN-RICKS. Proc. Zool. Soc. London 142(1): 181-185. Jan. 1964. WR 114: 17
Unlike the house mouse (Mus musculus), the harvest mouse (Micromys minutus) does not breed in corn ricks but occupies the ricks only during the non-breeding portion of the year. Data are given on body weights and measurements and on sex ratio.

Rowland, Richard H., and Frederick B. Turner. CORRELATION OF THE LOCAL DISTRIBUTIONS OF DIPODOMYS MICROPS AND D. MERRIAMI AND OF THE ANNUAL GRASS BROMUS RUBENS. Southwestern Nat. 9(2): 56-61. 15 May 1964. WR 114: 17
[Univ. Calif., Los Angeles.] Abstract: The occurrences of Dipodomys microps and D. merriami in a small area of the Nevada Test Site were examined. The abundance of D. microps varies inversely with the abundance of Bromus rubens. Reynolds' hypothesis that dense grass interferes with escape from predators is reconsidered in terms of grass density and size of rodent.

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RODENTS--MISCELLANEOUS--Continued

Williams, Olwen, and Barbara A. Finney. ENDOGONE--FOOD FOR MICE. J. Mammal. 45(2): 265-271. May 1964. WR 114: 18

[Univ. Colo., Boulder.] Analysis of the contents of the digestive tracts of 450 mice trapped from 1955 to 1961 in a number of localities in northwestern Wyo. and north-central Colo. revealed 38% of the animals eating a hypogeous phycomycete, Endogone.

RATTUS AND MUS

Crabtree, D. Glen, W. H. Robison, and V. A. Perry. COMPOUND S-6999 (McN-1025) / NEW CONCEPT IN RODENT CONTROL. Pest Control 32(5): 26, 28, 30, 32. May 1964. WR 114: 18

[Denver Wildl. Res. Center, Denver, Colo.] Conclusions: 1. Compound S-6999 is a practical raticide for the control of both Norway and roof rats when used at a concentration of 0.50% in attractive baits. 2. Very few rats die in the open following a successful baiting with S-6999. 3. Compound S-6999 appears to be practically nonhazardous to animals other than rats when exposed in a bait at a concentration of 1% or less. No accidental poisoning of any wild or domestic animal was recorded in any of the 134 field trials conducted, although in a few instances baits were known to have been consumed by dogs, cats, hogs, and chickens.

Rowe, F. P. RATS AND MICE IN CORN RICKS. Agriculture 69(7): 322-324. 1962. [From J. Mammal. 45(2), 1964.] WR 114: 18

Rowe, F. P., and A. H. J. Chudley. CONTROL OF THE HOUSE-MOUSE (MUS MUSCULUS L.) WITH WHOLE WHEAT SOAKED IN A SOLUTION OF THE SODIUM SALT OF WARFARIN. Parasitica 17(4): 165-169. 1961. [From J. Mammal. 45(2), 1964.] WR 114: 18

Rowe, F. P., and M. Neve. TWO FIELD TRIALS OF DIPHACINONE AGAINST THE HOUSE-MOUSE (MUS MUSCULUS L.). Parasitica 17(4): 170-175. 1961. [From J. Mammal. 45(2), 1964.] WR 114: 18

Wilson, E. J. ULTRA-VIOLET LAMPS AND RODENT CONTROL. Parasitica 16(4): 119-125. 1960. [From J. Mammal. 45(2), 1964.] WR 114: 18

SCIURIDS

Davison, Verne E. SELECTION OF FOODS BY GRAY SQUIRRELS. J. Wildl. Mgmt. 28 (2): 346-352. Apr. 1964. WR 114: 18

[SCS, Athens, Ga.] Abstract: This study, which was conducted in Athens, Georgia, from January, 1960, to April, 1963, differs from the usual food-habits studies in relying on observation through binoculars of animals feeding rather than on analysis of stomach contents. Various foods were offered repeatedly, with equal availability, in natural outdoor settings, to wild (unpenned) gray squirrels (Sciurus carolinensis). Evaluation of foods is based on squirrels' acceptance or rejection and is expressed as choice, fair, and uneaten or only tasted. Tables show the months in which each food was offered and include 69 choice foods, 9 fair, and 34 uneaten or only tasted. Protection and possibly planting of choice foods are recommended, and artificial feeding in winters following failure of mast crops.

Eley Game Advisory Station. GREY SQUIRRELS / SHOOTING AND TRAPPING. Eley Game Advisory Serv. (formerly I.C.I. Game Serv.) Booklet 19. 19 p., illus. Revised Spring 1964. WR 114: 18

[Fordingbridge, Hampshire, England.] In England, gray squirrels (Sciurus carolinensis) are considered as pests because they eat the buds, young shoots and bark of trees, nuts, bulbs, seeds, ripe and unripe fruit, and the eggs and young of song and game birds. Trapping and shooting methods for eliminating the squirrels are described.

SCIURIDS--Continued

Lee, M. Raymond, and Donald F. Hoffmeister. STATUS OF CERTAIN FOX SQUIRRELS IN MEXICO AND ARIZONA. Proc. Biol. Soc. Wash. 76: 181-190. 2 Aug. 1963. [From J. Mammal. 45(2), 1964.] WR 114: 19

Madson, John. GRAY AND FOX SQUIRRELS. Olin Mathieson Chemical Corporation (East Alton, Ill.). 112 p., illus. 1964. WR 114: 19
As a result of several excellent studies on tree squirrels and their management, more is known about these animals than other animals, with a few possible exceptions. Much of the information earlier published in scattered references is here compiled in a well-written, popular publication that should readily capture the interest of both specialized and general readers. A confirmed squirrel hunter could hardly find more interesting reading.

McCoy, Clarence J., Jr., and Pat H. Miller. ECOLOGICAL DISTRIBUTION OF THE SUBSPECIES OF AMMOSPERMOPHILUS LEUCURUS IN COLORADO. Southwestern Nat. 9(2): 89-93. 15 May 1964. WR 114: 19
[Univ. Colo. Museum, Boulder.] Ammospermophilus leucurus cinnamomeus and A. l. pennipes are ecologically segregated in Colo., pennipes living at elevations below 5500 feet and cinnamomeus at elevations above 5500 feet.

McKeever, Sturgis. FOOD HABITS OF THE PINE SQUIRREL IN NORTHEASTERN CALIFORNIA. J. Wildl. Mgmt. 28(2): 402-404. Apr. 1964. WR 114: 19
[Univ. Calif., Davis.] Abstract: Food of the pine squirrel (Tamiasciurus douglasi), based upon volumetric analysis of the stomach contents of 207 animals, consisted mainly of fungi and tree seed. Tree seed was an important food during the fall and winter, but fungi constituted more than half the annual diet. Cambium was an important food item during the winter and spring. Some leaves of herbs, flowers, and arthropods were eaten but were a minor part of the diet.

Neal, Bobby J. ALBINO HARRIS GROUND SQUIRRELS AT AJO, ARIZONA. Southwestern Nat. 9(2): 104-105. 15 May 1964. WR 114: 19
[Phoenix Coll., Phoenix, Ariz.] Albino Harris ground squirrels (Citellus harrisii) were observed to be more shy than normal animals.

Stil'mark, F. R. [THE ECOLOGY OF THE CHIPMUNK, EUTAMIAS SIBIRICUS, IN THE PINUS SIBIRICA FORESTS OF THE W. SAYAN MTS.] Zool. Zhur. (Moscow) 42(1): 92-102. 1963. [From Commonwealth Forestry Bur., Centralized Title Serv. Cards, 1 Apr. 1963. In Russian with English summ.] WR 114: 19
Describes: distribution by biotopes in relation to forest types, numbers, feeding and reproduction, and practical importance. The chipmunk feeds heavily on P. sibirica seeds.--Courtesy/ Frank M. Johnson.

BEAVER

Rutherford, William H. THE BEAVER IN COLORADO / ITS BIOLOGY, ECOLOGY, MANAGEMENT AND ECONOMICS. Colo. Game, Fish & Parks Dept., Federal Aid Wildl. Restoration, Tech. Bull. no. 17. 49 p., illus. Mar. 1964. WR 114: 19
Each of the major topics of the sub-titles is further subdivided into 6-8 sections in this treatment of the beaver.

MUSKRAT AND NUTRIA

Andone, G., Cornel C. Popescu, and V. Nesterov. BIZAMUL ÎN R.P.R. CU PRIVIRE SPECIALĂ ASUPRA PREZENTEI LUI ÎN DELTA DUNĂRII. [THE MUSKRAT IN THE RUMANIAN PEOPLE'S REPUBLIC WITH A SPECIAL CONSIDERATION OF ITS PRESENCE IN THE DANUBE DELTA.] Studii si Cercetări 22-A: 27-55, 7 figs. [Aug. 1961.] In Rumanian with Russian, German and English summ. WR 114: 19

MUSKRAT AND NUTRIA--Continued

Marcström, Vidar. THE MUSKRAT ONDATRA ZIBETHICUS L. IN NORTHERN SWEDEN. Viltrevy 2(6): 329-384, 12 figs. 1964. Text in English and Swedish. WR 114: 20

[Univ. Uppsala, Sweden.] During 1920-1955 releases of muskrats in Sweden totalled 2,300. Muskrats have become established in a large part of the country. This publication deals with their present distribution, dispersal, habitat, habits, food, sex ratio, age determination, reproduction, body weight, population-limiting factors and economic importance.

Wilson, Everett D., and Ralph R. Hathaway. ANTIBODY PRODUCTION BY MYOCASTOR COYPUS. Texas J. Sci. 15(2): 236-238. June 1963. [From J. Mammal. 45(2), 1964.] WR 114: 20

BEARS

Almăsan, H. CONTRIBUTII LA CUNOASTEREA RĂSPÎNDIRII SI BIOLOGIEI URSULUI (URSUS ARCTOS L.) ÎN R.P.R. [ON THE DISTRIBUTION AND BIOLOGY OF THE BEAR (URSUS ARCTOS L.) IN THE R.P.R.] Studii si Cercetări 23-A: 51-70, 11 figs. [Mar. 1963.] In Rumanian with Russian, German and English summ. WR 114: 20

In summer brown bears occur in 44% of the total wooded area of Rumania. In the fall they occupy more area in their search for food. The brown bear population in Rumania increased from about 1000 in 1940 to 3000 in 1963. The area occupied by these bears is continually expanding.

Erickson, Albert W. A MIXED-AGE LITTER OF BROWN BEAR CUBS. J. Mammal. 45 (2): 312-313. May 1964. WR 114: 20

[Alaska Dept. Fish & Game, Anchorage.] The litter consisted of 2 yearling or 2-year-old cubs and 1 cub-of-the-year.

Manning, T. H. AGE DETERMINATION IN THE POLAR BEAR URSUS MARITIMUS PHIPPS. Canadian Wildl. Serv., Occas. Papers no. 5. 12 p., 4 figs. 1964. WR 114: 20

[RR 1, Merrickville, Ontario, Canada.] Abstract: Skull criteria are given for aging of Polar Bears up to six years, by which time they are considered fully grown. Most characters develop earlier in females than in males. Sexual maturity is probably reached by males early in their fourth year, and by females possibly early in their third. Weights of 13 bacula are given.

Scott, Jack Denton. YOU DON'T HUNT BLACK BEARS. Sports Afield 150(6): 26-27, 61-63, illus. Dec. 1963. WR 114: 20

Chiefly a tribute to the cunning of the black bear. This popular article contains much information on bear behavior and biology.

RACCOON, RINGTAIL, COATI

Ellis, Ralph J. TRACKING RACCOONS BY RADIO. J. Wildl. Mgmt. 28(2): 363-368, 1 fig. Apr. 1964. WR 114: 20

[Ill. Nat. Hist. Surv., Urbana.] Abstract: Raccoons (Procyon lotor) were radio-tracked on two areas in east-central Illinois from August, 1961, to June, 1962. A radio transmitter coated with epoxy-resin cement and designed to be worn around the raccoon's neck was used. Data derived from tracking seven raccoons for 33 nights suggest the possibility that where a high population density of raccoons exists they move less and use smaller home ranges than where the population density of raccoons is much lower and that they may change the location of their home range from month to month. The animals studied moved much during daylight hours, seemed to spend much of their time on the ground, and made intensive use of corn in farm livestock feeders where available.

Sutton, Richard W. RANGE EXTENSION OF RACCOON IN MANITOBA. J. Mammal. 45 (2): 311-312. May 1964. WR 114: 21

[Manitoba Museum, Winnipeg, Manitoba, Canada.] Reports records showing an extension of range well north of that previously recorded.

MUSTELIDS

Adams, Willie V., George E. Sanford, Earl E. Roth, and Leslie L. Glasgow. NIGHTTIME CAPTURE OF STRIPED SKUNKS IN LOUISIANA. J. Wildl. Mgmt. 28(2): 368-373, 3 figs. Apr. 1964. WR 114: 21

[La. State Univ., Baton Rouge.] Abstract: On 115 hunting trips, made at night over a 4-year period, 808 striped skunks (Mephitis mephitis) were captured alive and uninjured. Equipment used to capture these animals included a four-wheel drive truck, a skunk bag, plywood transport boxes, and head lamps. Two persons were required to capture skunks by this method. One person drove the truck at 10-20 mph along the flood-control levees or in open areas such as pastures and fields. The other person stood on a platform, prepared to capture the skunks as they were located. When a skunk was seen, the driver drove alongside the animal. The capturer jumped off the truck and placed the skunk bag over the animal. All skunks were transferred to plywood boxes and transported to the laboratory. None emitted musk while in transit. Nylon nets were also used on these hunts to capture 495 opossums, 216 armadillos, 12 raccoons, and 4 rabbits.

Anderson, Roy C. GNATHOSTOMA MIYAZAKII N. SP. FROM THE OTTER (LUTRA C. CANADENSIS) WITH COMMENTS ON G. SOCIALE (LEIDY, 1858) OF MINK (MUSTELA VISON). Canadian J. Zool. 42(2): 249-254, 11 figs. Mar. 1964. WR 114: 21

Hamilton, W. J., Jr., and W. Robert Eadie. REPRODUCTION IN THE OTTER, LUTRA CANADENSIS. J. Mammal. 45(2): 242-252, 1 pl. May 1964. WR 114: 21

[Cornell Univ., Ithaca, N. Y.] Evidence from reproductive tracts indicated that females breed for the first time in Mar. or Apr. when 2 years old, and that males produce mature sperm cells at that age. Free blastocysts were recovered from Nov. and Dec. females. Implanted embryos were recovered in Feb., Mar. and Apr. Data from sectioned ovaries and uterine tracts indicate that adult females mate not long after parturition; that implantation is delayed for 8 or more months and that the total gestation period is approximately 12 months. Corpora lutea show small, compact cells with no vacuolation in Nov.-Dec. otters with free blastocysts; corpora lutea of females with implanted embryos are greatly enlarged with very large cells. Most commonly 2 or 3 young are produced.--From abstr.

Hartman, L. THE BEHAVIOUR AND BREEDING OF CAPTIVE WEASELS (MUSTELA NIVALIS L.). New Zealand J. Sci. 7(2): 147-156, 5 figs. June 1964. WR 114: 21

[Dept. Sci. & Industrial Res., Wellington, New Zealand.] The breeding season extends from spring to autumn with two or three possible litters during the season. The gestation period is 35-37 days. The young take solid food 24 days after birth and open their eyes in 30-32 days. Their weight increases from 1.5 g at birth to the mature weight of 170 g in males and 80 g in females within 12-14 weeks. The attachment to the home site varies in individual animals.--From summ.

DOGS, WOLVES, FOXES

Carlson, C. Edward. A RED FOX FATALITY BY SELF-ENTRAPMENT. J. Mammal. 45 (2): 318-319, 1 pl. May 1964. WR 114: 21

[Bur. Sport Fisheries & Wildl., Washington, D. C.] The fox (Vulpes fulva) inserted its head in a tree cavity and became trapped. Removal of the dead animal required the efforts of 2 men.

Failor, Paul L. WHEN YOU SOUND THE CALL, YOU BECOME THE HUNTED...THEY HUNT YOU. Pa. Game News 35(5): 2-9, illus. May 1964. WR 114: 22
[Pa. Game Comm., Harrisburg.] Contains suggestions for calling foxes with use of both electronic and manual calls.

Friend, Milton, and Samuel B. Linhart. USE OF THE EYE LENS AS AN INDICATOR OF AGE IN THE RED FOX. N. Y. Fish & Game J. 11(1): 58-66, 4 figs. Jan. 1964. WR 114: 22
[N. Y. Conserv. Dept., Albany.] Abstract: Tabulation of the dried weights of eye lenses from 72 known-age silver foxes demonstrated that lens weight increased with age and that the distribution of the data served to separate juveniles from adults with approximately 92 per cent accuracy. Similar data for 458 wild red foxes also showed that juveniles could be separated from adults with a high degree of accuracy. For the red foxes, the separation fell between 203 and 213 milligrams. For 78 specimens the distribution of juveniles and adults according to lens weight was compared with that according to the degree of ossification of the proximal epiphysis of the humerus; there was complete agreement.

Linhart, Samuel B., and Robert K. Enders. SOME EFFECTS OF DIETHYLSTILBESTROL ON REPRODUCTION IN CAPTIVE RED FOXES. J. Wildl. Mgmt. 28(2): 358-363. Apr. 1964. WR 114: 22
[N. Y. State Conserv. Dept., Delmar.] Abstract: Diethylstilbestrol, a synthetic estrogen, was given to captive red foxes (Vulpes fulva) to determine the effect upon reproduction. Forty-two females were force fed a single 50-mg dose at times ranging from 47 days before mating to the 26th day of gestation. The production of offspring served to measure results. All females given the estrogen from 9 days before mating to 10 days after mating failed to produce kits. With two exceptions other treated females proved fertile. Eight male red foxes were force fed a single 50-mg dose of the estrogen. Biweekly testicular biopsies from treated animals proved similar in appearance to those taken from the six controls.

Malczewski, A. THE RED FOX VULPES VULPES L. AS THE FINAL HOST OF THE TAPEWORM ECHINOCOCCUS GRANULOSUS (BATSCH, 1786) IN POLAND. Bull. Acad. Polonaise Sci. (Sci. Biol.) 11(6): 295-296. Aug. 1963. [From J. Mammal. 45 (2), 1964.] WR 114: 22

McIntosh, D. L. REPRODUCTION AND GROWTH OF THE FOX IN THE CANBERRA DISTRICT. CSIRO Wildl. Res. 8(2): 132-141, 6 figs. + 2 pls. Dec. 1963. WR 114: 22
[Div. Wildl. Res., CSIRO, Canberra, Australia.]

Parmelee, David Freeland. MYTH OF THE WOLF. Beaver (295): 4-9, illus. Spring 1964. WR 114: 22
[Kans. State Teachers Coll., Emporia.] An account of close contacts with a family of timber wolves on Ellesmere Island, Canada, including hand-capture of 2 pups. "Since the beginning of man probably no mammal has been so grossly misunderstood and poorly managed as the wolf."

Waters, Joseph H. RED FOX AND GRAY FOX FROM NEW ENGLAND ARCHEOLOGICAL SITES. J. Mammal. 45(2): 307-308. May 1964. WR 114: 22
[Univ. R. I., Kingston.] Archeological excavations indicate that red foxes were present in New England at least 1500 years ago.

BIG GAME, GENERAL

Avila-Pires, Fernando Dias de. SÔBRE ALGUMAS FORMAS DO GÊNERO MAZAMA RAFINESQUE, 1817 (RUMINANTIA-CERVIDAE). [ON SOME FORMS OF THE GENUS MAZAMA RAFINESQUE, 1817 (RUMINANTS-CERVIDAE).] Atas Soc. Biol. Rio de Janeiro 3(3): 7-9. 31 Aug. 1959. [From J. Mammal. 45(2), 1964. (In Portuguese).] WR 114: 22

Bigalke, R. C. A NOTE ON REPRODUCTION IN THE STEENBOK RAPHICERUS CAMPESTRIS THUNBERG. Ann. Cape Provincial Museums 3: 64-67. 1963. WR 114: 23
[Alexander McGregor Memorial Museum, Kimberley, S. Africa.] The gestation period of the steenbok is 168 days or less. Oestrus may occur soon after parturition, with 2 annual breeding peaks. Steenbok appear to first lamb at 1 year of age.

Boyd, J. Morton, J. Mackay Doney, R. Graham Gunn, and Peter A. Jewell. THE SOAY SHEEP OF THE ISLAND OF HIRTA, ST. KILDA. A STUDY OF A FERAL POPULATION. Proc. Zool. Soc. London 142(1): 129-163, 7 figs. + 3 pls. Jan. 1964. WR 114: 23
[Nat. Conservancy, 12 Hope Terrace, Edinburgh, Scotland.] "This work is concerned with the basic factors controlling the size and genetical constitution of a population of large mammals. Hirta has an undisturbed and easily observed population of Soay sheep in a closed habitat with no removals or introductions, supported by a relatively simple type of pasture and subject to a known climate. More than ten per cent can be easily caught and marked annually. There are no other herbivores on the island. The prospects of elucidating fundamental ecological and genetical mechanisms in this population are good, but the comparative inaccessibility of St. Kilda makes continuous study difficult. Nevertheless it is hoped to follow this introductory account with more detailed treatments of some of the subjects discussed here in general terms."

Boyd, Ray, and M. C. Coghill. TRAMPOLINE ELK. Colo. Outdoors 13(2): 16-19, illus. Mar.-Apr. 1964. WR 114: 23
[Montrose, Colo.] Elk struggled and injured themselves when confined for marking, etc. in a squeeze chute. In order to avert injuries, animals were induced to jump over a 5-foot barrier where they landed on a strong net. Their feet went through the meshes of the net, and they struggled without injury to themselves or the study workers. After blood samples were taken and the animals were marked and weighed, the suspended net was lowered and the elk were allowed to escape.

Cotta, V., and H. Almăsan. RĂSPÎNDIREA, DENSITATEA EFECTIVELOR DE CERB SI ELEMENTE PENTRU CUNOASTEREA CALITĂTII TROFEELOR.. [DISTRIBUTION, DENSITY OF RED-DEER STANDS AND ELEMENTS TO DETERMINE THE QUALITY OF TROPHIES.] Studii si Cercetări 23-A: 71-95, 1 fig. [Mar. 1963.] In Rumanian with Russian, German, and English summ. WR 114: 23
In 1960-1961 the red deer (Cervus elaphus) occupied 39% of the forest land in Rumania with an average of 0.61 deer/100 hectare. The density of deer is only about half of what is to be desired in the country as a whole, but it is too high in limited areas where density reaches 6 deer/hectare. Data are given on variation in antler development and on deer weights.

Cotta, Vasile, H. A. Almăsan, T. Babutia, and V. Scutaru. RĂSPÎNDIREA SI DENSITATEA DE EFECTIV A CĂPRIORULUI ÎN R.P.R. CĂILE PENTRU OBTINEREA UNUI EFECTIV RATIONAL. [DISTRIBUTION AND DENSITY OF THE ROEDEER AND MEANS TO OBTAIN A RATIONAL NUMBER OF ANIMALS.] Studii si Cercetări 22-A: 5-25, 4 figs. [Aug. 1961.] In Rumanian with Russian, German and English summ. WR 114: 23

Dahlberg, B. L. THE MOOSE RETURNS. Wis. Conserv. Bull. 29(3): 16-17, illus. May-June 1964. WR 114: 23
Moose were exterminated in Wis. in the early part of the 20th century, but reported observations of moose in the state increased from one in 1960 to fifteen in 1963. Spread is eastward, indicating that the initial repopulation stock wandered into Wis. from Minn.

Denney, Dick. FENCES AND BIG GAME. Colo. Outdoors 13(2): 3-6, illus. Mar.-Apr. 1964. WR 114: 23
[Fort Collins, Colo.] Recommendations are given for types of fences designed to permit safe and easy crossing by big game animals and still control livestock movement. Antelope generally go under a fence and deer and elk jump over it.

Espmark, Yngve. RUTTING BEHAVIOUR IN REINDEER (RANGIFER TARANDUS L.) Animal Behaviour 12(1): 159-163, 1 fig. + 1 pl. Jan. 1964. WR 114: 24
[Univ. Stockholm, Stockholm, Sweden.] Due to earlier appearance of rut and greater fighting strength, older bulls served more cows than younger bulls. The harem-holding bull became very thin during the rutting season because of being kept busy keeping his harem inviolate. Harems of older bulls occupied larger areas than those of younger bulls, and sizes of areas occupied varied without topographic relationships. Old harem-holding bulls were more aggressive toward old rival bulls than toward young ones, but old cows were particularly aggressive toward young bulls. First copulations occurred in late Sept. Peak mating activity occurred at dusk and dawn, with only one copulation with each cow.

Geagan, Bill. WOODLAND CARIBOU COMES HOME TO MAINE. Natl. Parks Magazine 38(200): 8-9, illus. May 1964. WR 114: 24
In 1962 an attempt was made to re-establish the woodland caribou by stocking 24 caribou on Mount Katahdin by helicopter. The last living specimen in this area was seen about 1908.

[Greenley, Joe.] NONRESIDENTS IMPORTANT TO FG PROGRAM THOUGH DEER MANAGEMENT VALUE REDUCED. Nevada Wildl. 4(9): 1-5, illus. Mar. 1964. WR 114: 24
[Nev. Fish & Game Comm., Box 678, Reno.] In past years adequate harvest of deer in Nev. depended on using out-of-state hunters, but with increased human population, resident deer hunters increased by some 12,000 during 1958-1963, and hunting success was reduced. Eliminating non-resident hunting licenses would reduce Fish and Game Department income 40% or more, but demand for game may soon outstrip production potential and necessitate curtailment of non-resident hunting.

Juon, P. [THE NUTRITION OF ROE-DEER.] Schweiz. Z. Forstw. 114(3): 98-117. 1963. [From Commonwealth Forestry Bur., Centralized Title Serv. Cards, 27 May 1963. In German.] WR 114: 24
Courtesy/ Frank M. Johnson.

Kelsall, John P. BARREN-GROUND CARIBOU AND THEIR MANAGEMENT. Canadian Audubon Magazine 25(5): 144-149. Nov.-Dec. 1963. WR 114: 24
[Box 180, Sackville, New Brunswick, Canada.] The barren-ground caribou (Rangifer tarandus) population in Canada once totalled 2-3 million animals, but it so declined that a census in 1955 indicated a remaining population of 278,900. Over-utilization by humans continues to be the crucial factor in the caribou decline. Sport hunting of caribou has been abolished, and legal hunting by humans is confined to the Treaty Indians. The hunting rights of the Treaty Indians were established and guaranteed by treaties signed by Indians and the Canadian government.

Lochman, J., A. Tvrdíková, and A. Melicharová. [FOOD CONSUMPTION BY CAPRBOLUS CAPRBOLUS.] Sborn. Čsl. Akad. Zeměd. Věd (Lesn.) 7(6): 551-570. 1961. [From Commonwealth Forestry Bur., Centralized Title Serv. Cards, 20 May 1963. In Czech with Russian and German summ.] WR 114: 24
Gives tabulated results of a study on weight of food consumed by deer in systematic feeding experiments, 1957-60.--Courtesy/ Frank M. Johnson.

Markgren, Gunnar. PUBERTY, DENTITION AND WEIGHT OF YEARLING MOOSE IN A SWEDISH COUNTY. Viltrevy 2(7): 409-417, 3 figs. 1964. [In English with Swedish summ.] WR 114: 24
[Boda Försöksstation, Enånger, Sweden.] Summary: In yearling moose taken in 1961-1963 from the Gavleborg county of Sweden, puberty, dressed weight, and dental development have been recorded. Only ca. 17% had a complete permanent dentition by October. About 50% of the female yearlings from the coastal region, but almost none from inland (Los) had ovulated. Individuals having ovulated were found in nearly all weight classes and at various stages of tooth development. Obviously, a yearling should not be designated as "retarded" or "weak" merely from an examination of the dentition, as has often happened.

McKean, John W. PRINCIPLES OF BIG GAME MANAGEMENT. Oreg. State Game Comm. Bull. 19(3): 3-8, 15, illus. May-June 1964. WR 114: 25
[Oreg. State Game Comm., P. O. Box 3503, Portland.] A discussion of accepted practices in big game management as they relate to Oreg.

McKinley, Daniel. THE AMERICAN BISON IN PIONEER MISSOURI. Bluebird 31(1): 3-14. Spring 1964. WR 114: 25
[Lake Erie Coll., Painesville, Ohio.]

Riney, Thane, and Graham Child. LIMITATIONS OF HORN HEIGHT AS AN INDEX TO AGEING THE COMMON DUIKER (SYLVICAPRA GRIMMIA). Arnoldia 1(1): 1-4, 3 figs. Jan. 1964. WR 114: 25
[Intern. Union Conserv. Nature and Nat. Resources, Morges, Switzerland.]
Summary: The extent to which duiker horns could be used as a field criterion for assigning even rough age-classes for population studies was tested. Growth was so rapid and individual variation so great that at four and one half months of age, using horns as a field criterion, there was the chance of large calves being confused with small adults. It is suggested that the only limited use of horns as a field criteria is to indicate that, when horns are half the length of adult horns or less, duiker are probably under five months of age.

Ruskov, M., and P. Petrov. [INVESTIGATIONS ON RED DEER DAMAGE IN BULGARIAN BEECH FORESTS, AND MEASURES TO PREVENT IT.] Nauč. Trud. Lesoteh. Inst. (Sofia) 11: 107-120. 1963. [From Commonwealth Forestry Bur., Centralized Title Serv. Cards, 30 Mar. 1964. In Bulgarian with German summ.] WR 114: 25
Courtesy/ Frank M. Johnson.

Siniff, Donald B., and Ronald O. Skoog. AERIAL CENSUSING OF CARIBOU USING STRATIFIED RANDOM SAMPLING. J. Wildl. Mgmt. 28(2): 391-401, 3 figs. Apr. 1964. WR 114: 25
[Alaska Dept. Fish & Game, Juneau.] Abstract: This paper describes an aerial census of the Nelchina herd of Alaska caribou (Rangifer tarandus), located in south-central Alaska. The census was taken February 23-27, 1962, by the method of stratified random sampling. The areas currently utilized by the herd were divided into strata on the basis of population densities, and each stratum was gridded into 4-square-mile sampling units. The number of units allocated for sampling each stratum was proportional to the estimated population therein, thus permitting greater sampling effort in those strata with high caribou densities--a procedure known as optimum allocation. The initial allocation was adjusted so that at least 15 percent of the area in each stratum was sampled. The relation of the strata means and variances was examined to establish a reference which may be used for the allocation of sampling effort in future surveys. The population estimate for the areas sampled by this technique was found to be 54,452 ± 11,867, with 95 percent confidence limits. A direct count was made in a few areas where stratified sampling could not be used. A conservative final population estimate for the Nelchina herd was 71,000 animals.

Szunyoghy, János. [ACCLIMATIZATION AND PRESENT SPREADING OF OVIS MUSIMON PALL. IN HUNGARY INCLUDING AN EVALUATION OF THE SUBSPECIES OVIS MUSIMON SINESELLA TURČEK.] Allatani Közlemények (Budapest) 47(3-4): 179-189. 1960. [From J. Mammal. 45(2), 1964. In Hungarian with English summ.] WR 114: 25

Tadeo, C. B. PALATABILITY OF SOME FORAGE PLANTS TO YOUNG AND MATURE PHILIPPINE DEER (CERVUS (RUSA) SP.). Cec. Pap. Bur. For. Philippines no. 15. 2 p. 1963. [From Commonwealth Forestry Bur., Centralized Title Serv. Cards, 27 Jan. 1964.] WR 114: 25
Includes data on browsing rates for many Philippine woody species, which proved among the more palatable of the sources of fodder tested.--Courtesy/ Frank M. Johnson.

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Turček, F. J. [BARK FRAYING BY ROEDEER ON WOODY SPECIES.] Z. angew. Zool. (Berlin) 49(4): 429-438. 1962. [From Commonwealth Forestry Bur., Centralized Title Serv. Cards, 5 Feb. 1964. In German.] WR 114: 26

Describes observations in an Arboretum, a mixed young plantation and a stand of Metasequoia in Central Slovakia.--Courtesy/ Frank M. Johnson.

Woodgerd, Wesley. POPULATION DYNAMICS OF BIGHORN SHEEP ON WILDHORSE ISLAND. J. Wildl. Mgmt. 28(2): 381-391. Apr. 1964. WR 114: 26

[Mont. State Fish & Game Dept., Glasgow.] Abstract: This is a report on a population of Rocky Mountain bighorn sheep (Ovis canadensis) resulting from the release, in 1939, of a yearling ram and ewe and a later supplemental release of seven sheep on 4-square-mile Wildhorse Island, Montana. Competition for forage was severe. The highest density of grazing animals was 20 bighorn sheep, 100 mule deer (Odocoileus hemionus), and 20 horses per square mile. Observations on 51 marked and 6 otherwise recognizable animals yielded information on movement, herding characteristics, age-specific mortality, breeding age, and behavior. Bighorns mature sexually and breed at 18 months of age. The sex ratio at birth was nearly equal, but superior survival of males to early adulthood and the larger average life-span of males produced an unbalanced ratio in favor of rams. Lamb survival to 6 months was about 60 percent but rose from then to early adulthood. Population figures from frequent counts of the herd show a steady increase from 1939 to 1959, when 137 sheep were counted; thereafter the population appeared to level off or decline. No hunting has been allowed, and neither poaching nor predation threaten the bighorns. A light incidence of lungworm (Protostrongylus) infection and evidence of severe bone infection in the head were found.

DEER (Odocoileus)

Bauer, Joseph F. DEER MANAGEMENT PROGRAM / DEVELOPMENT PHASE. N. J. Outdoors 14(6): 14-20, illus. Dec. 1963. WR 114: 26

N. J. Div. Fish & Game, Trenton.] An account of some of the problems and methods of deer management in the most heavily populated (human) state in the U. S. Deer management as practiced in N. J. was developed cooperatively by the State Farm Bureau, sportsmen, and the Division of Fish and Game.

Dodds, Donald G. THE WHITE-TAIL IN NOVA SCOTIA. Dept. Lands & Forests (Halifax, Nova Scotia). 30 p., illus. 1963. WR 114: 26

Extending its range northward, the white-tailed deer first appeared in Nova Scotia in about 1870. In 1916 an open season was declared, and by 1935 winter mortality was observed. The highest reported kill was in 1954 when 46,389 deer were bagged. Decline in the annual kill followed until 1961 when only 17,682 deer were bagged. In 1961 hunter success was the lowest reached since 1939. Since 1938, hunters have been permitted to bag 2 deer of either sex throughout most of the province most years.

Hayes, Frank A. DIG THEIR GRAVES, MR SPORTSMAN. Fla. Wildl. 17(10): 20-25, 34, illus. Mar. 1964. WR 114: 26

[Univ. Ga., Athens.] A veterinarian, and the Director of the Southeastern Cooperative Wildlife Disease Study, writes as one converted from the old-time "bucks only" viewpoint to the modern "either sex" approach to deer management. A seemingly convincing case is made, and it is to be expected that this article will be reproduced in other state conservation journals, as it deserves to be.

Jensen, Dale R. THE SOUTHEASTERN IDAHO DEER HERDS. Idaho Wildl. Rev. 16 (4): 3-7, illus. Jan.-Feb. 1964. WR 114: 26

[Box 931, Soda Springs, Idaho.] The history of deer populations and habitat, winter mortality, winter range investigations, census methods and results, hunting and harvest, age class structure of populations, productivity, weights, migration, disease and future management are discussed.

Kentucky Dept. Fish & Wildl. Resources. KENTUCKY'S DEER HERD NEMESIS--POACHERS AND DOG PACKS. Ky. Happy Hunting Ground 20(3): 4-7, illus. May 1964. WR 114: 27

In some sections of Ky., killing by dogs and illegal hunters are the chief causes of deer mortality. Cooperation is needed from all sportsmen if this loss is to be alleviated.

Klein, David R. RANGE-RELATED DIFFERENCES IN GROWTH OF DEER REFLECTED IN SKELETAL RATIOS. J. Mammal. 45(2): 226-235, 1 fig. May 1964. WR 114: 27

[Univ. Alaska, College.] "The femur/hind foot ratio appears to be a more reliable measure of growth than body weight or linear measurements and is less subject to genetic influence. This ratio is also adaptable to conditions where only small samples are obtainable. The deer populations on the study islands showed growth differences attributable to differing levels in their annual nutritional regimens. The use of the femur/hind foot ratio supports the thesis that these growth differences are of nutritional rather than genetic origin."

Mackie, Richard J. MONTANA DEER WEIGHTS. Mont. Wildl. p. 9-14, illus. Winter 1964. WR 114: 27

[1207 Cougar St., Bozeman, Mont.] More than 2500 mule deer and 1500 white-tailed deer were weighed in Mont. since 1948. Discussion covers comparisons of weights of the two species, live weight vs. dressed weight, hog-dressed weight vs. meat, and some reasons for weight variation.

Mangold, Robert E. THE WHITETAIL / NEW JERSEY'S BIG GAME. N. J. Outdoors 14(6): 2-10, illus. Dec. 1963. WR 114: 27

[N. J. Div. Fish & Game, Trenton.] A fine popular article on deer management, containing research findings and hunter prospects predictions.

McCullough, Dale R. RELATIONSHIP OF WEATHER TO MIGRATORY MOVEMENTS OF BLACK-TAILED DEER. Ecology 45(2): 249-256, 3 figs. Spring 1964. WR 114: 27

[Univ. Calif., Berkeley.] Both spring and fall migrations, and possibly an atypical summer movement, occurred during ranges of 40 to 60% minimal relative humidity. Snowstorms, rainfall, absolute humidity, and temperature were not so closely correlated. The migrations could not be attributed to habitat factors such as food, water, or escape cover.--From abstr.

McKean, John W. THE INTERSTATE DEER. Oreg. State Game Comm. Bull. 19(1): 3, 6-7, illus. Jan.-Feb. 1964. WR 114: 27

[Oreg. State Game Comm., P. O. Box 3503, Portland.] This herd of mule deer uses about 2,000 square miles in Oreg. for summer range and about 400 square miles in Calif. for winter range. During 1949-1962 deer harvests totaled 89,396 deer, with 82% taken in Oreg. and 18% in Calif. The average annual yield since 1949 has been 6,385 deer, of which 37% were antlerless. The buck:doe ratio has varied from 10 to 20 bucks/100 does; the fawn:doe ratio has varied from 65 to 97 fawns/100 does.

Queal, Leland M. OUR KANSAS DEER. Kans. Fish & Game 21(2): 3-7, 17, illus. Winter 1964. WR 114: 27

[Kans. Forestry, Fish & Game Comm., Pratt.] From the status where sight of a deer was newsworthy 10-12 years ago, deer have increased so there are now approximately 19,400 in Kans. This state will probably have its first deer season in 1965. This popular article contains a wealth of life history information that should be of interest to Kans. sportsmen and outdoors devotees generally. A series of photographs of antler-locked deer is noteworthy.

Roberts, Harvey A. PENNSYLVANIA'S 45 YEARS OF DEER DAMAGE CONTROL...DECADES OF DEER DAMAGE. Pa. Game News 35(4): 12-15, illus. Apr. 1964. WR 114: 27

[Pa. Game Comm., P. O. Box 1567, Harrisburg.] History of deer regulations and over-population problems in Pa. since 1907.

Severinghaus, C. W., and John E. Tanck. PRODUCTIVITY AND GROWTH OF WHITE-TAILED DEER FROM THE ADIRONDACK REGION OF NEW YORK. N. Y. Fish & Game J. 11 (1): 13-27, 1 fig. Jan. 1964. WR 114: 28

[Wildl. Res. Lab., Delmar, N. Y.] Fawns were transferred from an area characterized by winter starvation of deer to an area with ample food and less severe winter weather. Reproductive rates and body weights attained by the transplants were equal to the best in N. Y. "It seems clear that adequacy of nutrition is the primary factor responsible for differences that occur."--From abstr.

Short, Henry L. NOTES AND COMMENTS ON MANDIBULAR MALFORMATIONS IN DEER. J. Mammal. 45(2): 319-321. May 1964. WR 114: 28

[Colo. State Univ., Fort Collins.] Reviews the literature on brachygnathism, a condition where the mandibular diastema is abnormally short, and presents 2 new cases.

Short, Henry L., and Cathleen P. Short. ABNORMAL DENTITION IN A COLORADO MULE DEER. J. Mammal. 45(2): 315. May 1964. WR 114: 28

[Colo. State Univ., Fort Collins.] Presumably as a result of injuries received at an early age, a 6-7 year old mule deer (Odocoileus hemionus) lacked a second molar and its socket and had a swelling of the diastema.

Trainer, Daniel O. EPIZOOTIC HEMORRHAGIC DISEASE OF DEER. J. Wildl. Mgmt. 28(2): 377-381. Apr. 1964. WR 114: 28

[Univ. Wis., Madison.] Abstract: Epizootic hemorrhagic disease of deer is a highly fatal virus disease of white-tailed deer (Odocoileus virginianus) in North America. Laboratory-confirmed outbreaks have occurred at irregular intervals during the past 7 years in North Dakota, South Dakota, Nebraska, Michigan, Alberta, and New Jersey. Numerous other epizootics suspected of being epizootic hemorrhagic disease have been reported. The present status of knowledge regarding epizootic hemorrhagic disease of deer is reviewed, and recent research findings of the author are incorporated. The history of this disease, including records of past and recent epizootics, is reported. The etiological, clinical, and histopathological manifestations of epizootic hemorrhagic disease are described. Its epizootiology is discussed and speculation concerning possible methods of transmission offered.

Whicker, Floyd W. DENSITY STUDIES OF MULE DEER BODY FAT. J. Mammal. 45 (2): 252-259, 3 figs. May 1964. WR 114: 28

[Colo. State Univ., Fort Collins.]

Williams, Jesse E. DEER, DEATH AND DESTRUCTION. Colo. Outdoors 13(2): 1-3, illus. Mar.-Apr. 1964. WR 114: 28

[Montrose, Colo.] In a 3-year period 2,446 deer-car accidents were reported in Colo., and estimated damage to vehicles was $337,332 or $142/accident. Seventy-one per cent of the accidents happened on known deer crossings, and 71% happened between Oct. and Apr. Sixty-four per cent were between 4:00 and 10:00 p.m. By dimming headlights, and driving slowly in areas where deer crossing signs are erected, it is possible to reduce deer-car accidents.

MAMMALS--MARINE

Bauer, Richard D., Ancel M. Johnson, and Victor B. Scheffer. EYE LENS WEIGHT AND AGE IN THE FUR SEAL. J. Wildl. Mgmt. 28(2): 374-376, 2 figs. Apr. 1964. WR 114: 28

[Marine Mammal Biol. Lab., Seattle, Wash.] Abstract: From the weight of the dried eye lenses of 146 fur seals (Callorhinus ursinus), the relationship between lens weight and age is tabulated and discussed. Lens weight increased geometrically in both sexes and was still increasing in the oldest specimens studied: a 14-year male and a 21-year female. When only the lens weight and sex are known, the age of a seal can be identified to the nearest year through age 2.

Bauer, Richard D., Richard S. Peterson, and Victor B. Scheffer. AGE OF NORTHERN FUR SEAL AT COMPLETION OF ITS FIRST MOLT. J. Mammal. 45(2): 299-300. May 1964. WR 114: 29

[Marine Mammal Biol. Lab., Seattle, Wash.] The mean date of completion of the first molt was 7 Oct. and the mean age 13 weeks.

Bertram, G. C. L., and C. K. Ricardo Bertram. THE STATUS OF MANATEES IN THE GUIANAS. Oryx 7(2-3): 90-93. Aug. 1963. [From J. Mammal. 45(2), 1964.] WR 114: 29

Boyd, J. Morton. THE GREY SEAL (HALICHOERUS GRYPUS FAB.) IN THE OUTER HEBRIDES IN OCTOBER 1961. Proc. Zool. Soc. London 141(4): 635-661, 4 figs. Dec. 1963. WR 114: 29

[Nature Conservancy, Edinburgh, Scotland.] With the gradual decline in human populations on the Outer Hebrides, there has followed an increase in the population of seals. Approximately 4,400 pups are indicated for 1961.

Fiscus, Clifford H., Gary A. Baines, and Ford Wilke. PELAGIC FUR SEAL INVESTIGATIONS, ALASKA WATERS, 1962. US F&WS, Spec. Sci. Rept.--Fisheries no. 475. iii + 59 p., 28 figs. Jan. 1964. WR 114: 29

[U. S. Fish & Wildl. Serv., Seattle, Wash.] Of 1,486 seals collected, 91% were females and 9% were males. The proportion of pregnant females ranged from 63% in June to 15% in mid-July and almost none thereafter. Post partum females formed about 50% of seals taken from Aug. to Oct., and nonpregnant mature females formed 10% of the total. Immature females predominated in the feeding area off Tigalda Island. Seal movements through Unimak Pass were not correlated with stomach contents or tide direction. Tagged seals, including one with a Soviet tag, made up 3.4% of the total. From 1958 to 1962 the pregnancy rate of all females was 72.3% and the rate for females 6 to 26 years of age was 83.8%.--From abstr.

Gallacher, J. B., and W. E. Waters. PNEUMONIA IN GREY SEAL PUPS AT ST. KILDA. Proc. Zool. Soc. London 142(1): 177-180. Jan. 1964. WR 114: 29

Of 45 grey seal (Halichoerus grypus) pups found at St. Kilda, 16 were known to have died of pneumonia. Four pups recovered from respiratory infections after penicillin treatments.

Hall, K. R. L., and George B. Schaller. TOOL-USING BEHAVIOR OF THE CALIFORNIA SEA OTTER. J. Mammal. 45(2): 287-298, 2 figs., 2 pls. May 1964. WR 114: 29

[Univ. Bristol, Bristol, England.] Otters opened mussels by pounding them repeatedly against a stone lying on the chest, but on occasion such other items as crabs and urchins were also pounded, either against a stone or on the chest itself. The mean number of blows necessary to open a mussel was 35.5 (range 6-88, sd 20.4). The same stone was frequently retained for several successive food items, and such retention would seem to imply an anticipation of use that goes beyond the immediate situation.--From abstr.

Holdgate, M. W. FUR SEALS IN THE SOUTH SANDWICH ISLANDS. Polar Record 11 (73): 394-405. Jan. 1963. [From J. Mammal. 45(2), 1964.] WR 114: 29

O'Gorman, Fergus. OBSERVATIONS ON TERRESTRIAL LOCOMOTION IN ANTARCTIC SEALS. Proc. Zool. Soc. London 141(14): 837-850, 3 figs., 4 pls. Dec. 1963. WR 114: 29

[Charing Cross Hospital Medical School, London, England.] Observations on the crabeater seal, leopard seal, Weddell seal, elephant seal, Ross seal and harp seal.

Orr, Robert T., and Thomas C. Poulter. NORTHWARD MOVEMENT OF THE CALIFORNIA SEA OTTER. Calif. Fish & Game 50(2): 122-124, 2 figs. Apr. 1964. WR 114: 29

Includes notes on interspecies relationships between sea otters and sea lions (Steller and California).

MAMMALS--MARINE--Continued

Rice, Dale W. PROGRESS REPORT ON BIOLOGICAL STUDIES OF THE LARGER CETACEA IN THE WATERS OFF CALIFORNIA. Norsk Hvalfangst-Tidende (Norwegian Whaling Gazette) 52(7): 181-187. July 1963. [From J. Mammal. 45(2), 1964.] WR 114: 30

Schevill, William E., William A. Watkins, and Carleton Ray. UNDERWATER SOUNDS OF PINNIPEDS. Science 141(3575): 50-53. 5 July 1963. [From J. Mammal. 45(2), 1964.] WR 114: 30

MAMMALS--OTHER GROUPS

Sharman, G. B., and Phyllis E. Pilton. THE LIFE HISTORY AND REPRODUCTION OF THE RED KANGAROO (MEGALEIA RUFA). Proc. Zool. Soc. London 142(1): 29-48, 4 29-48, 4 figs. + 5 pls. Jan. 1964. WR 114: 30
[Div. Wildl. Res., CSIRO, Canberra, Australia.] Contains information on estrous cycle, copulation, gestation period, parturition, delayed implantation, and development of young.

Shield, J. W., and Patricia Woolley. POPULATION ASPECTS OF DELAYED BIRTH IN THE QUOKKA (SETONIX BRACHYURUS). Proc. Zool. Soc. London 141(4): 783-789, 2 figs. Dec. 1963. WR 114: 30
[Australian Natl. Univ., Canberra, Australia.]

BIRDS--GENERAL

Hendriksma, J. T. PROTECTING GROUND NESTS FROM CATTLE. British Birds 57 (5): 189-190 + 1 pl. May 1964. WR 114: 30
A four-pronged metal arch was wrapped with several coils of barbed wire and placed over nests of birds on the ground in pastures. Arches were placed over 255 nests, and 78% of these nests were successful. Of the protected nests, 7.5% were still destroyed by cattle. Without protection, loss of 50-75% of nests normally occurs.

Hughes, Patrick E. WATCHING BIRD FLIGHTS BY RADAR / MYSTERY "BLIPS" PROVE TO BE CHIMNEY SWIFTS, WATERFOWL AND OTHER SPECIES. Audubon Magazine 66(3): 182-184, illus. May-June 1964. WR 114: 30
[1848 Pimit Court, Falls Church, Va.] "The British, from 1941 through 1945, made a thorough study of birds detected by their coastal defense radars, although the published report was classified. About 1956, scientists started using radar to study bird habits."

Klimik, E. B. [ATTRACTING BIRDS TO NESTS IN THE FORESTS OF THE MOSCOW REGION.] Ornitologija (Moscow) no. 6. p. 331-337. 1963. [From Commonwealth Forestry Bur., Centralized Title Serv. Cards, 9 Mar. 1964. In Russian.] WR 114: 30
Courtesy/ Frank M. Johnson.

Lavery, H. J., and Nancy Hopkins. BIRDS OF THE TOWNSVILLE DISTRICT OF NORTH QUEENSLAND. Emu 63(3): 242-252. Nov. 1963. WR 114: 30
[Dept. Agr. & Stock, Townsville, 4 Dalcouth Flats, 114 Kitchener Rd., Ascot, Queensland, Australia.] An annotated list of 231 spp. of birds based on data collected during 1938-1963.

Leach, E. P. RECOVERIES IN GREAT BRITAIN AND IRELAND OF BIRDS RINGED ABROAD. British Birds 56(Ringing Supplement): 525-540. 1963. WR 114: 30
A selected list of recoveries of about 70 spp.

Mayer-Gross, H. LATE NESTING IN BRITAIN IN 1960. British Birds 57(3): 102-118, 2 figs. Mar. 1964. WR 114: 31

The breeding season of many song thrushes (Turdus philomelos) and blackbirds (T. merula) in 1960 continued a month or more beyond the usual ending time. This is believed to be associated with high rainfall and below average sunshine during July. Titmice (Parus sp.) also had more late nests in 1960 than usual, and a higher proportion of young were reared.--From summ.

Spencer, Robert. REPORT ON BIRD-RINGING FOR 1962. British Birds 56 (Ringing Supplement): 477-524, 8 maps. 1963. WR 114: 31

There were 89,627 recoveries made of the 3,271,095 birds banded during 1909-1962.

Terres, John K. ON THE TRAIL OF OUR WANDERING BIRDS. Audubon Magazine 66 (2): 100-103, illus. Mar.-Apr. 1964. WR 114: 31

[Chapel Hill, N. C.] Traces the history of development of bird marking and banding. One of the earliest experiments in marking a wild bird was sometime in the period 218-201 B.C. A table is given of band-revealed ages of birds.

Tichý, V., and J. Kudler. [THE INFLUENCE OF BIRDS ON THE COURSE OF AN OUTBREAK OF BUPALUS PINIARIUS.] Sborn. Čsl. Akad. Zeměd. Věd (Lesn.) 8(3): 151-166. 1962. [From Commonwealth Forestry Bur., Centralized Title Serv. Cards, 8 Apr. 1963. In Czech with Russian and English summ.] WR 114: 31

Courtesy/ Frank M. Johnson.

Warham, John. LAND-BIRDS OVER THE INDIAN OCEAN. Ibis 106(2): 260-261. Apr. 1964. WR 114: 31

[3 Atherton Street, Durham City, England.] Observations are reported of land birds found as much as 900 miles from the nearest land.

Williamson, Kenneth. BIRD CENSUS WORK IN WOODLAND. Bird Study 11(1): 1-22, 9 figs. Mar. 1964. WR 114: 31

Birds were censused during the breeding season on a 44-acre plot of woodland by random search rather than by following fixed routes. The random-search method appeared satisfactory when sufficient well-spaced visits were made. On an area of 40-50 acres, 12-15 visits should be made; 8 visits would be enough on an area of 20-25 acres.

BIRDS--MORPHOLOGY, PHYSIOLOGY, BEHAVIOR, MIGRATION

Barlee, John. THE FLIGHT OF THE GANNET. Colo. Outdoors 13(1): 58-65, illus. Jan.-Feb. 1964. WR 114: 31

An excellent popular article on bird flight. Topics discussed include shape of tail, power plants, take-off, landing, flight, soaring and diving.

Caldwell, Larry D., Eugene P. Odum, and Shirley G. Marshall. COMPARISON OF FAT LEVELS IN MIGRATING BIRDS KILLED AT A CENTRAL MICHIGAN AND A FLORIDA GULF COAST TELEVISION TOWER. Wilson Bull. 75(4): 428-431, 1 fig. Dec. 1963. WR 114: 31

[Univ. Ga., Athens.] The results provide indirect evidence for the hypothesis that long-range northern migrants begin southward migration with low to moderate fat reserves and with consequent short flights, then increase their reserves with each stop until the maximum level is reached at or near points, as on or near the Gulf Coast, where long nonstop flights are undertaken. --From summ.

Coutlee, Ellen L. MAINTENANCE BEHAVIOR OF THE AMERICAN GOLDFINCH. Wilson Bull. 75(4): 343-357, 13 figs. Dec. 1963. WR 114: 31

[Mount Saint Mary's Coll., Los Angeles, Calif.] Detailed descriptions and analyses of postures used by the goldfinch (Spinus tristis) in locomotion, feeding, drinking, bathing, preening, defecating and sleeping are given.

Cruickshank, Enid, and A. R. I. Cruickshank. FEEDING BEHAVIOUR OF MILVUS MIGRANS TENEBROSUS IN EAST AFRICAN COASTAL WATERS. Ibis 106(2): 253-254. Apr. 1964. WR 114: 32

[Univ. Edinburgh, Edinburgh 9, Scotland.] African black kites were reported to be the dominant scavengers at certain seasons of the year. It was noted that while gulls were almost invariably successful in collecting food from the surface of the water, the kites were successful only 3 out of 5 dives.

Dexter, Ralph W. CHIMNEY SWIFT RETURNS AT KENT, OHIO, 1962 AND 1963, WITH NOTES ON NESTING SUCCESS. Bird-Banding 35(1): 38-39. Jan. 1964. WR 114: 32

[Kent State Univ., Kent, Ohio.] Ten pairs occupied the same chimneys with the same mates in two successive years.

Drury, W. H., Jr., and I. C. T. Nisbet. RADAR STUDIES OF ORIENTATION OF SONGBIRD MIGRANTS IN SOUTHEASTERN NEW ENGLAND. Bird-Banding 35(2): 69-119, 9 figs. Apr. 1964. WR 114: 32

[Mass. Audubon Soc., Lincoln, Mass.] Southward migrating birds shifted their headings in adjusting for wind-drift so that the mean track sometimes remained constant despite wind changes. Birds migrating over and near the mainland turned landward about 1.5°/hr. during the night. Oriented migration was observed regularly and disoriented migration was rarely observed under overcast skies and low-lying fog. It was suggested that birds maintain their course primarily but not entirely by visual observation of the landscape.--From summ.

Duncan, C. J. THE SENSE OF TASTE IN THE FERAL PIGEON. THE RESPONSE TO ACIDS. Animal Behaviour 12(1): 77-83, 5 figs. Jan. 1964. WR 114: 32

[Univ. Liverpool, Liverpool, England.] Preference tests suggested that the physiological receptor mechanism in birds for sour stimuli is similar to that of mammals.--From summ.

Farner, Donald S. THE PHOTOPERIODIC CONTROL OF REPRODUCTIVE CYCLES IN BIRDS. Am. Scientist 52(1): 137-156, 12 figs. Mar. 1964. WR 114: 32

[Washington State Univ., Pullman.] Chiefly a review of the literature showing that the reproductive cycle of the white-crowned sparrow (Zonotrichia leucophrys gambelii) is controlled by day length. Nearly 100 references are cited.

Ford, Julian. BREEDING BEHAVIOUR OF THE YELLOW-TAILED THORNBILL IN SOUTH-WESTERN AUSTRALIA. Emu 63(3): 185-200, 2 figs. Nov. 1963. WR 114: 32

[75 Swan Rd., Attadale, Western Australia.] Acanthiza chrysorrhoa.

Forshaw, Joseph M. SOME FIELD OBSERVATIONS ON THE GREAT PALM COCKATOO. Emu 63(4): 327-331, 1 fig. Mar. 1964. WR 114: 32

[Flat 13, Block 5, Condamine Court, Turner, A.C.T., Australia.] A report of limited observations made during Nov. 1963 on habitat, roosting behavior, activity at congregating tree, flight, voice, aggressive behavior, feeding and nesting of Probosciger aterrimus.

Ganier, Albert F. THE ALLEGED TRANSPORTATION OF ITS EGGS OR YOUNG BY THE CHUCK-WILL'S-WIDOW. Wilson Bull. 76(1): 19-27, 1 fig. Mar. 1964. WR 114: 32

[2112 Woodlawn Dr., Nashville, Tenn.] Observations are reported to discredit reports of early American naturalists to the effect that the chuck-will's-widow moves its eggs in its mouth after its nest has been disturbed by humans.

Gibson, J. D. THIRD REPORT OF THE NEW SOUTH WALES ALBATROSS STUDY GROUP (1962) SUMMARIZING ACTIVITIES TO DATE. Emu 63(3): 215-223. Nov. 1963. WR 114: 32

[12 Redman Ave., Thirroul, New South Wales, Australia.] A report of the banding of 1,238 wandering albatrosses (Diomedea exulans) during 1958-1962. Tables are also included of recaptures of birds banded in the period covered by this report and earlier. Wandering albatrosses showed a tendency to return to the same feeding area in later years, sometimes in company with the same partners.

Gladwin, T. W. INCREASES IN THE WEIGHTS OF ACROCEPHALI. Bird Migration 2 (5): 319-324. Dec. 1963. WR 114: 33

Shortly before leaving Britain on migratory flights, reed warblers (Acrocephalus scirpaceus) and sedge warblers (Acrocephalus schoenobaenus) made marked gains in weight, presumably as a result of fat accumulation. It was calculated that sedge warblers could fly 1500 miles on accumulated fat reserves.

Hailman, Jack P. THE MOCKINGBIRD'S "TAIL-UP" DISPLAY TO MAMMALS NEAR THE NEST. Wilson Bull. 75(4): 414-417. Dec. 1963. WR 114: 33

[Duke Univ., Durham, N. C.] Mockingbirds were observed giving tail-up displays to 4 spp. of mammals: (dog, cat, human and squirrel). The observed display was described. Recently fledged mockingbirds were observed giving the display, but calling and posturing of the adults rather than presence of the mammal appeared to elicit the young birds' response.--From summ.

Harris, M. P. RING LOSS AND WEAR OF RINGS ON MARKED MANX SHEARWATERS. Bird Study 11(1): 39-46, 3 figs. Mar. 1964. WR 114: 33

[Univ. Coll. Swansea, Wales.] Average useful life of bands on Manx shearwaters (Procellaria puffinus) was about 4 years, but some bands were illegible 2 years after application.

Horváth, Otto. SEASONAL DIFFERENCES IN RUFOUS HUMMINGBIRD NEST HEIGHT AND THEIR RELATION TO NEST CLIMATE. Ecology 45(2): 235-241, 6 figs. Spring 1964. WR 114: 33

[Univ. British Columbia, Hope, British Columbia, Canada.] Abstract: Nest height for rufous hummingbirds differs significantly between spring and summer nests in southern British Columbia. Though spring and summer microclimates are different, the microclimate of nest sites is similar in the spring nest sites and summer nest site. Hummingbirds build their nests at low levels in conifers in spring, but higher and in deciduous trees in the summer. The effect of the stand in reducing the ambient temperature is greater at this low nest site in conifers than at the higher sites in deciduous trees. The low nest sites are more protected from climatic extremes than the high nest sites, and thus the seasonal effects of the microclimate are moderated. Radiation is higher in summer than in spring, which results in extreme climatic amplitudes near the ground; this makes the low nest sites less favorable for the birds in summer. The summer nest sites are located mainly in the crown of deciduous trees and experience the temperature reducing effect of the intensive evapotranspiration of these trees. This means an effective protection against heat, which would not be provided at the level of spring nest sites.

Johnston, David W. HEART WEIGHTS OF SOME ALASKAN BIRDS. Wilson Bull. 75 (4): 435-446. Dec. 1963. WR 114: 33

[Univ. Fla., Gainesville.] Body weights, heart weights and body weight:heart weight ratios are given for 77 species, based on data from 563 individuals. Heart weight is greater in arctic than in tropical birds and in birds flying much than in those flying relatively little.

Kale, Herbert W., II. NESTING OF PURPLE MARTINS ABOARD A SHIP. Wilson Bull. 76(1): 62-67, 1 fig. Mar. 1964. WR 114: 33

[Univ. Ga., Athens.] Three young were hatched and reared to fledgling stage in a nest on a boat absent from dock 1-9 hours several days weekly. The adult birds did not follow the boat to attend the nest when the boat was not at its dock, and the feeding time thus lost amounted to 20% of the total daylight time of the nestling period.--From summ.

Kendeigh, S. Charles. REGULATION OF NESTING TIME AND DISTRIBUTION IN THE HOUSE WREN. Wilson Bull. 75(4): 418-427, 4 figs. Dec. 1963. WR 114: 33

[Univ. Ill., Champaign.] Summary: Onset of egg laying in the House Wren is regulated to the general time of year by the development of the gonads under the stimulus of changing photoperiods, to the time of month by their return to

the breeding grounds from spring migration, and to the precise day by temperature. Low temperatures, particularly during May when the development of the gonads puts the birds in breeding condition, may limit the breeding range northward and high temperatures may limit the breeding range southward. Limitation of the breeding range appears thus to be determined by the lack of synchronization between the occurrence of favorable temperatures and photoperiods--northward because the onset of favorable temperatures is too slow, southward because it is too fast.

Konishi, Masakazu. EFFECTS OF DEAFENING ON SONG DEVELOPMENT IN TWO SPECIES OF JUNCOS. Condor 66(2): 85-102, 8 figs. Mar.-Apr. 1964. WR 114: 34
[Univ. Tübingen, Beim Kupferhammer 8, Germany.] Details are given for an operation to produce deafness in small birds. The basic song developed in deafened birds, but audiospectographic analyses revealed differences in detail of songs of deafened birds. Songs of deaf ♀♀ induced to sing by testosterone implantation were similar to those of deaf ♂♂.

MacBriar, Wallace N., Jr. CHIMNEY SWIFTS GATHERING INSECTS OFF THE SURFACE OF A POND. Wilson Bull. 75(4): 458. Dec. 1963. WR 114: 34
[Milwaukee Public Museum, Milwaukee, Wis.] Two chimney swifts flew low over the water of a pond, "periodically dipping their bills to the water", after which "they flew directly toward a group of farm buildings". The author believed the birds to be collecting insects from the water surface rather than getting water to drink.

Matthews, G. V. T. INDIVIDUAL EXPERIENCE AS A FACTOR IN THE NAVIGATION OF MANX SHEARWATERS. Auk 81(2): 132-146, 2 figs. Apr. 1964. WR 114: 34
[Wildfowl Trust, Slimbridge, Gloucestershire, England.] Transported birds showed a tendency to orient homeward when released in sunshine but scattered randomly when released under heavy clouds. Homing experience had little effect on orientation, but experience led to reduction of time used in returning to the homesite. Improvement in homing ability in repeated tests on the same individual resulted from habituation to disturbance, rather than from learning landmarks.--From summ.

Nelson, Bryan. BASS ROCK GANNETS / AGGRESSION SEEMS DOMINANT THEME IN BEHAVIOR OF THESE BIRDS. Nat. Hist. 73(4): 32-41, illus. Apr. 1964. WR 114: 34
This well-illustrated popular article contains a wealth of information on the biology and behavior of gannets (Sula bassana).

Nicholls, Thomas H. AN EXPERIMENT IN THE MYSTERY OF HOMING INSTINCTS IN SWALLOWS. Passenger Pigeon 25(4): 142-149, illus. Winter 1963. WR 114: 34
[3829 Council Crest, Madison, Wis.] Purple martins, cliff swallows, bank swallows and chimney swifts were color-marked and taken by automobile and released as much as 141 miles from their nesting sites. Of 83 birds removed, 79.5% returned. Ten "fledgling" bank swallows were released 3 miles from their nests, and 3 returned.

Nolan, Val, Jr. MIGRANT CAPE MAY WARBLER APPARENTLY CARRYING NEST MATERIAL. Wilson Bull. 75(4): 460-461. Dec. 1963. WR 114: 34
[Ind. Univ., Bloomington.] A female Cape May warbler was observed carrying nest material when in migration about 400 miles south of the species' breeding range.

Nunneley, Sarah Ann. ANALYSIS OF BANDING RECORDS OF LOCAL POPULATIONS OF BLUE JAYS AND OF REDPOLLS AT GRANBY, MASS. Bird-Banding 35(1): 8-22, 2 figs. Jan. 1964. WR 114: 34
[Mount Holyoke Coll., South Hadley, Mass.] Some blue jays were permanent residents in the Connecticut Valley, some were migratory, and some may have altered their status from year to year. A total of 122 redpolls was banded. There was no sex difference in length of stay or repeat behavior of redpolls.

Nye, Pauline A. HEAT LOSS IN WET DUCKLINGS AND CHICKS. Ibis 106(2): 189-197, 1 fig. Apr. 1964. WR 114: 35

[Univ. Otago, Dunedin, New Zealand.] The decline in body temperature of ducklings was dependent on the waterproofing of their down and on how much the skin became wetted. Waterproofing of ducklings was better during the first week or two of life than later. Decline in body temperature (when waterproofing of ducklings was destroyed with a detergent) was somewhat similar in ducklings and domestic chicks.

Oakley, C. T. BLACKBIRD AND SONG THRUSH SHARING A NEST. British Birds 57 (5): 204. May 1964. WR 114: 35

A song thrush (Turdus philomelos) and a blackbird (Turdus merula) laid eggs in the same nest and shared incubation duties. The nest contained 3 eggs of each spp. All of the eggs hatched except one of those of the blackbird.

Prescott, Kenneth W. CONSTANCY OF INCUBATION FOR THE SCARLET TANAGER. Wilson Bull. 76(1): 37-42. Mar. 1964. WR 114: 35

[N. J. State Museum, Trenton.] Various factors influencing the female scarlet tanager's constancy on the nest were discussed. Among those influencing constancy were: male feeding female on nest; male feeding female soon after she left the nest; temperature; time of day; sunlight; rain; and day of incubation. The interplay of all these factors influenced the individual female incubation patterns.--From summ.

Quine, D. A., and J. M. Cullen. THE PECKING RESPONSE OF YOUNG ARCTIC TERNS STERNA MACRURA AND THE ADAPTIVENESS OF THE "RELEASING MECHANISM". Ibis 106 (2): 145-173, 6 figs. Apr. 1964. WR 114: 35

[227 Westmorland Rd., Newcastle-on-Tyne, England.] The chicks pecked at red, blue and silver more than at orange, yellow, green, black and white, and the response was increased by adding a contrasting spot to a beak. A plain red beak, the natural color in the breeding season, was pecked less than one tipped with black, the color in the winter. Chicks responded more to the beak models when a "fish" was attached. Under natural conditions the chicks swallow their food, chiefly the sandeel Ammodytes, head first, and this is facilitated by the chicks pecking more at the head than the tail end of the fish. The stimuli by which head and tail are distinguished were found to be the pattern of the eye and tail-fin rather than the shape of head and tail.--From summ.

Roosa, Dean M. HOMING ABILITY EXPERIMENTS WITH SMALL LAND BIRDS. Iowa Bird Life 34(1): 15-18. Mar. 1964. WR 114: 35

[Goldfield, Iowa.] Summary: Twenty-one small land birds of seven species were tested during nesting season for homing ability. They were removed from a nest containing eggs or young, transported in a covered, dark container several miles in various directions where they were banded, color-marked and released. Data were taken on weather conditions, direction from nest, sex of bird, and time of release. Of the breeding birds, 100 percent returned from distances of one to eight miles. Sex differences, direction, time of release, whether the bird was taken from eggs or young, and whether the bird was migratory or non-migratory had no apparent effect on the homing ability. Weather conditions apparently affect some species. Sixteen birds were tested after the breeding season. Of these birds, released at distances of 30-35 miles, only one returned. The lack of success with non-breeding birds compares well with other experiments.

Rowley, Ian. THE REACTION OF THE SUPERB BLUE WREN, MALURUS CYANEUS, TO MODELS OF THE SAME AND CLOSELY RELATED SPECIES. Emu 63(3): 207-214, 1 fig. Nov. 1963. WR 114: 35

[Div. Wildl. Res., CSIRO, Canberra, Australia.] Superb blue wrens were subjected to experimental territory infringement by using skins mounted in a life-like manner. Only the dominant male in the group showed aggressive behavior in winter, but all adult members of the group responded during the nesting season. When specimens of Malurus other than M. cyaneus were presented, aggressive behavior was not shown by M. cyaneus until after an aggressive encounter with a model of its own species.--From summ.

Salt, George William. RESPIRATORY EVAPORATION IN BIRDS. Biol. Rev. 39(1): 113-136, 3 figs. Feb. 1964. WR 114: 36

[Univ. Calif., Davis.] There appears to be four classes of species: one in which respiratory evaporation as a temperature-regulating mechanism is unimportant or non-existent; a second in which respiratory evaporation takes place in the lungs and air sacs and in which, at air temperatures above the upper critical temperature, increased evaporation is achieved only by an increased respiratory rate; a third in which respiratory evaporation takes place in the lungs and air sacs but the evaporative rate can be enhanced without an increase in respiratory rate; and a fourth in which evaporation takes place in the more anterior regions of the respiratory tract such as the trachea or buccal cavity. --From summ.

Schemnitz, Sanford D. NESTING ASSOCIATION OF PILEATED WOODPECKER AND YELLOW-SHAFTED FLICKER IN A UTILITY POLE. Wilson Bull. 76(1): 95. Mar. 1964. WR 114: 36

[Univ. Maine, Orono.] Nests (with entrances 4 feet apart) of a yellow-shafted flicker and a pileated woodpecker were concurrently occupied.

Schmidt-Nielsen, Knut, and Yoon T. Kim. THE EFFECT OF SALT INTAKE ON THE SIZE AND FUNCTION OF THE SALT GLAND OF DUCKS. Auk 81(2): 160-172, 5 figs. Apr. 1964. WR 114: 36

[Duke Univ., Durham, N. C.] Peking ducks developed larger salt-secreting glands when reared with sodium chloride added to their drinking water, and the glands were able to secrete fluid at a much higher rate than the glands of fresh water controls. The salt concentration of secretions of salt-adapted birds was only slightly higher than that of fresh water controls.--From summ.

Sparks, John H. FLOCK STRUCTURE OF THE RED AVADAVAT WITH PARTICULAR REFERENCE TO CLUMPING AND ALLOPREENING. Animal Behaviour 12(1); 125-136, 5 figs. Jan. 1964. WR 114: 36

[Zool. Soc., Regents Park, London, N.W.1, England.] A study of factors affecting body contact or separation among caged red avadavats (Amandava amandava).

Taylor, Walter K. BROWN THRASHERS NESTING IN A CAVITY OF A TREE. Wilson Bull. 75(4): 462. Dec. 1963. WR 114: 36

[La. Polytechnic Inst., Ruston.] The nest was in a decay-formed cavity.

Thapliyal, J. P., and P. D. Tewary. EFFECT OF LIGHT ON THE PITUITARY, GONAD AND PLUMAGE PIGMENTATION IN THE AVADAVAT (ESTRILDA AMANDAVA) AND BAYA WEAVER (PLOCEUS PHILIPPINUS). Proc. Zool. Soc. London 142(1): 67-71. Jan. 1964. WR 114: 36

[Banaras Hindu Univ., Varansi-5, India.] Abstract: Effect of fifteen hours of daylength has been studied in two species of local finches. Increased daylength in baya weaver (Ploceus philippinus) induces gonad recrudescence practically immediately but not in the avadavat (Estrilda amandava) and the gonads in this species continue to regress in size. In Estrilda amandava there is a post nuptial period of sexual negativity which seems to operate both at the gonadal and hypophysial levels.

Van [Pan], C.-M. [USING NEST-BOXES FOR ATTRACTING THE GREAT TITS TO THE CULTIVATED LARCH WOODS.] Acta Zool. Sinica (Peking) 14(2): 288. 1962. [From Commonwealth Forestry Bur., Centralized Title Serv. Cards, 17 Feb. 1964. In Chinese.] WR 114: 36

A note on attracting Parus major artatus to Larix sp. stands in N. China to assist in control of insect pests, e.g. Dendrolimus sibiricus and Coleophora laricella.--Courtesy/ Frank M. Johnson.

Ward, P. A SUGGESTED RELATIONSHIP BETWEEN WING SHAPE OF MIGRANTS AND MIGRATORY FAT. Ibis 106(2): 256-257. Apr. 1964. WR 114: 37
[Queen Elizabeth Coll., Univ. London, London, England.] Migratory birds may have developed longer wings than sedentary birds in connection with the added lifting strength needed to transport the additional fat reserves of migrants.

White, Clayton M. UNUSUAL BEHAVIOR OF A NORTHERN SHRIKE. Wilson Bull. 75 (4): 459-460. Dec. 1963. WR 114: 37
[Univ. Alaska, College.] A shrike struck and killed a pine grosbeak and then left to attack a sharp-tailed grouse. The author was uncertain as to whether the shrike actually made contact with the grouse.

BIRDS--MANUALS, FAUNAS, COMMUNITIES

Behle, William H., John B. Bushman, and Clayton M. White. DISTRIBUTIONAL DATA ON UNCOMMON BIRDS IN UTAH AND ADJACENT STATES. Wilson Bull. 75(4): 450-456. Dec. 1963. WR 114: 37
[Univ. Utah, Salt Lake City.]

Beruldsen, G. R. OBSERVATIONS FROM LAKE ALEXANDRINA, S. A. Emu 63(3): 224-233. Nov. 1963. WR 114: 37
[34 Davenport Terrace, Seacombe Park, South Australia.] With an annotated list of 49 bird species and additional general discussions on predation, oology and conservation.

Cawkell, E. M. THE UTILIZATION OF MANGROVES BY AFRICAN BIRDS. Ibis 106(2): 251-253. Apr. 1964. WR 114: 37
[29 Thorncliffe Court, King's Ave., London, S.W.4, England.] Lists of birds nesting, feeding or occurring in mangrove forests.

Elgood, J. H., and F. C. Sibley. THE TROPICAL FOREST EDGE AVIFAUNA OF IBADAN, NIGERIA. Ibis 106(2): 221-248, 3 figs. Apr. 1964. WR 114: 37
[Univ. Ibadan, Nigeria, Africa.] With information on regional status and habitat preferences of 266 spp. of birds recorded in the area during 1950-1963.

Grey, John. THE STATUS OF THE NORTH CAROLINA LIST. Chat 28(1): 3-8. Mar. 1964. WR 114: 37
[Box 445, Williamsburg, Va.] The need for a current official list of North Carolina birds is discussed. Based on stated criteria for acceptability of records, the N. C. bird list stands at 414 forms with an additional 5 forms being relegated to hypothetical status.

Harris, Bruce K. RECENT BIRD RECORDS FROM SOUTHEASTERN NEW MEXICO. Condor 66(2): 159-161. Mar. 1964. WR 114: 37
[N. Mex. Dept. Game & Fish, Silver City.] Based on six years of observations, data are given on status of 25 less common spp.

Howell, Thomas R. BIRDS COLLECTED IN NICARAGUA BY BERNARDO PONSOL. Condor 66(2): 151-158. Mar. 1964. WR 114: 37
[Univ. Calif., Los Angeles.] New information is given on the status and distribution in Nicaragua of about 30 spp.

Johnston, David W. THE BIRDS OF HIGHLANDS, NORTH CAROLINA, WITH A PRELIMINARY LIST FROM CASHIERS AND NEARBY GORGES. J. Elisha Mitchell Sci. Soc. 80(1): 29-38, 1 fig. May 1964. WR 114: 37
[Univ. Fla., Gainesville.]

Monson, Gale, and Allan R. Phillips. A CHECKLIST OF THE BIRDS OF ARIZONA. Univ. Ariz. Press (Tucson). 74 p. 1964. WR 114: 37
[U. S. Fish & Wildl. Serv., Washington, D. C.] Contains information on 432 spp. recorded in Ariz. Thirty additional spp. are listed as being hypothetical in Ariz.

BIRDS--MANUALS, FAUNAS, COMMUNITIES--Continued

Paul, W. Adrian B. BIRDS OF KLEENA KLEENE, CHILCOTIN DISTRICT, B.C., 1959-1962. Canadian Field-Nat. 78(1): 13-16. Jan.-Mar. 1964. WR 114: 38

[Kleena Kleene, British Columbia, Canada.] This report supplements an earlier one [WR 96: 59] and contains annotations on local status of 38 additional spp.

BIRDS--POPULATIONS & FLUCTUATIONS

Boyd, Elizabeth M., and Sarah A. Nunneley. BANDING RECORDS SUBSTANTIATING THE CHANGED STATUS OF TEN SPECIES OF BIRDS SINCE 1900 IN THE CONNECTICUT VALLEY. Bird-Banding 35(1): 1-8, 1 fig. Jan. 1964. WR 114: 38

[Mount Holyoke Coll., South Hadley, Mass.] Changes in status at selected stations are indicated for the following categories: non-migratory species extending ranges northward, former summer residents becoming permanent residents, and former transients now remaining throughout winter.

de Vos, Antoon. RANGE CHANGES OF BIRDS IN THE GREAT LAKES REGION. Am. Midland Nat. 71(2): 489-502. Apr. 1964. WR 114: 38

[Ontario Agr. Coll., Guelph, Canada.] Four species have completely disappeared from the region. Only one extension of range in a southward direction is known, but this is a reoccupance of formerly inhabited range. At least 10 species have a well-documented spread of range in a northerly direction, while there is some circumstantial evidence of a similar spread of several other species. Ten species have displayed a definite spread in an easterly direction, and there is strong evidence that at least eight more species spread in that direction. Two species have spread their range in a westerly direction. Range restrictions are known for at least two species. Four species have reoccupied former habitat.--From abstr.

Marshall, David B. TREASURE ISLANDS--OF WILDLIFE. Audubon Magazine 66(3): 160-165, illus. May-June 1964. WR 114: 38

[U. S. Fish & Wildl. Serv., Portland, Oreg.] "We stopped at Tern Island of French Frigate Shoals. It resembles a giant aircraft carrier and no longer serves the birds, having been turned into a military base during World War II. Only a handful of albatrosses and other birds remains from what was once a vast colony. This is a sad reminder of what could happen to other islands of the Hawaiian Islands Refuge if they are not carefully guarded."

BIRDS--ECONOMICS, CONTROL, MORTALITY

Kemper, Charles A. A TOWER FOR TV / 30,000 DEAD BIRDS. Audubon Magazine 66(2): 86-90, illus. Mar.-Apr. 1964. WR 114: 38

[Chippewa Falls, Wis.] More than 10,000 birds (representing about 1/3 of the mortalities) were picked up dead from beneath a 1,000-foot-high TV tower at Eau Claire, Wis. on 2 mornings in Sept. 1963. Thirty-nine spp. were represented. During the same period 924 birds of 47 spp. were collected from beneath a TV tower at Lewisville, Minn.

Pettingill, Olin Sewall, Jr. MIDWAY ISLANDS / MAN AND BIRDS IN CONFLICT. Audubon Magazine 66(3): 154-159, illus. May-June 1964. WR 114: 38

[Cornell Univ., Ithaca, N. Y.] On Midway in the Pacific Ocean approximately 133,000 pairs of Laysan albatrosses (Diomedea immutabilis) and 10,000 pairs of black-footed albatrosses (Diomedea nigripes) nested in 1963. During the nesting season (Nov. through June) aircraft strike albatrosses on the average of 100/month, with the cost/year running into 6 figures. Midway is presently an important U. S. Navy air base.

BIRDS--PARASITES AND DISEASES

Clark, Gordon Marston, and Louis N. Locke. MULTIPLE PARASITISM IN FLEDGLING BIRDS: CASE REPORTS. Avian Diseases 8(2): 315-316. May 1964. WR 114: 39
[Rocky Mountain Lab., Hamilton, Mont.] Case studies of three young birds. "All were victims of multiple pathogenic agents: pox virus, Plasmodium elongatum, and intestinal coccidia in the towhee; Aspergillus, Plasmodium relictum, and Trypanosoma in the cardinal; and Haemoproteus, Trypanosoma, coccidia, and a fungus in the grackle. It is quite possible that the heavy haemosporidian infections would eventually have killed all three birds."

Francis, D. W., and W. S. Huey. CASE REPORT: SALMONELLAE ISOLATED FROM GREATER SANDHILL CRANES (GRUS CANADENSIS TABIDA) IN NEW MEXICO. Avian Diseases 8(2): 312-314. May 1964. WR 114: 39
[N. Mex. Agr. Expt. Sta., University Park.] Summary: Salmonella infantis and S. belem were isolated from fecal samples of Greater Sandhill cranes. This is the first time these have been isolated from this species, and it is the first report of S. belem in New Mexico.

Keymer, I. F., and D. K. Blackmore. DISEASES OF THE SKIN AND SOFT PARTS OF WILD BIRDS. British Birds 57(4): 175-179 + 2 pls. Apr. 1964. WR 114: 39
Abnormalities of the skin, eyelids, legs, feet, and mandibles observed in individuals of 29 spp. of wild birds.

Norris, Robert A. A PRELIMINARY STUDY OF AVIAN BLOOD GROUPS WITH SPECIAL REFERENCE TO THE PASSERIFORMES. Bull. Tall Timbers Res. Sta. no. 4. 71 p., 8 figs. Aug. 1963. WR 114: 39
[Tall Timbers Res. Sta., Tallahassee, Fla.] Commercially prepared antisera designed for human blood grouping were used to test the blood of 658 birds of 94 spp. The red cells from some birds agglutinated, indicating blood group systems in birds like in man.--From summ.

Rosen, Merton N. ASPERGILLOSIS IN WILD AND DOMESTIC FOWL. Avian Diseases 8(1): 1-6. Feb. 1964. WR 114: 39
[Calif. Dept. Fish & Game, Sacramento.] It was found that aspergillosis was not contagious but that infection may have been a corollary of airborne fungus contaminating the atmosphere sufficiently to cause the mortality among diving ducks, free-flying passerine birds, and probably domestic poultry.--From summ.

QUAIL

Davis, Charles Andrew. COMPONENTS OF THE HABITAT OF THE BOBWHITE QUAIL IN PAYNE COUNTY, OKLAHOMA. Ph.D. thesis, Okla. State Univ. viii + 105 p., 19 figs. 1964. WR 114: 39
Basic components of the habitat of the bobwhite quail were identified and described. The components treated were places used for roosting, resting, dusting, escape, whistling and foraging, together with food items. Includes notes on: height of vegetation or other cover, per cent density, per cent overhead concealment, plant taxa and plant life-form. Contents of crops, gizzards, and droppings were identified in order to determine foods used.--From abstr.

Fox, M. R. Spivey, and Bertha Neal Harrison. USE OF JAPANESE QUAIL FOR THE STUDY OF ZINC DEFICIENCY. Proc. Soc. Exptl. Biol. & Med. 116(2): 256-259, 3 figs. June 1964. WR 114: 39
[Dept. Health, Educ. & Welfare, Washington, D. C.] "Successful use of the Japanese quail in this study indicates that the animal has great potential usefulness for nutrition studies."

Hutt, Art. A GENTLEMAN AMONG GAMEBIRDS NEEDS A HELPING HAND / THE BOBWHITE QUAIL. Fla. Wildl. 17(10): 12-15, 33, illus. Mar. 1964. WR 114: 39
A good information-filled popular article on quail management in southeastern U. S.

Kirkpatrick, Charles M. AGE VERSUS ENVIRONMENT AS CONDITIONS FOR REPRODUCTION IN CAGED BOBWHITES. J. Wildl. Mgmt. 28(2): 240-243. Apr. 1964. WR 114: 40

[Purdue Univ., Lafayette, Ind.] Abstract: In this study of the question of age versus environment as a condition for normal expression of sexual maturity in bobwhites (Colinus virginianus), 124 February-hatched, game-farm bobwhites were held outdoors from April to October 15. Less than 10 percent reached sexual maturity during the period, a marked contrast with similarly aged birds induced to mature by artificial light in other experiments. Performance (in numbers of eggs laid and in fertility) of February-hatched birds was much less pronounced than that of older birds held for comparison. The results suggest that a certain minimum age is advantageous for bobwhite reproduction in the natural outdoor environment.

Robel, Robert J. FALL AND WINTER FOOD HABITS OF 150 BOBWHITE QUAIL IN RILEY COUNTY, KANSAS. Trans. Kans. Acad. Sci. 66(4): 778-789, 1 fig. Feb. 1964. WR 114: 40

[Kans. State Univ., Manhattan.] Discussion of monthly usage, preferences, and other observations are presented.--From summ.

Roseberry, John L. SOME RESPONSES OF BOBWHITES TO SNOW COVER IN SOUTHERN ILLINOIS. J. Wildl. Mgmt. 28(2): 244-249, 1 fig. Apr. 1964. WR 114: 40

[Coop. Wildl. Res. Lab., S. Ill. Univ., Carbondale.] Abstract: An uncommonly long period of snow coverage early in 1960 (23 consecutive days with 3-16 inches of snow) afforded an opportunity to observe responses of bobwhites (Colinus virginianus) to adverse weather conditions. Daily contact was maintained with four coveys on the 1,600-acre Carbondale Research Area in southern Illinois. Roosting and loafing sites were shifted from open to woody cover, especially clumps of Japanese honeysuckle (Lonicera japonica). As waste grain in harvested fields was covered by snow, feeding was generally confined to small patches of unharvested corn and soybeans adjacent to woody cover. Coveys were more sedentary during the snow coverage. Daily movements varied from 70 to 600 yards, averaging 265 yards. Three late winter ranges averaging 23.7 acres were reduced during the snow to include only woody cover and unharvested cropland; one covey utilized only 3.3 acres for a period of 7 days. An estimated 29 birds perished out of a presnow population of 162; losses appeared to correlate with quality of winter range, especially the availability of agricultural grains.

PHEASANTS

Anderson, William L. SURVIVAL AND REPRODUCTION OF PHEASANTS RELEASED IN SOUTHERN ILLINOIS. J. Wildl. Mgmt. 28(2): 254-264. Apr. 1964. WR 114: 40

[Ill. Nat. Hist. Surv., Urbana.] Abstract: Nine hundred game-farm pheasants (Phasianus colchicus), from California stock, and 814 wild-trapped pheasants, from east-central Illinois, were released during the winters of 1959-60 and 1960-61, on an area near Neoga, located about 20 miles south of the range occupied by self-maintaining populations in Illinois. This experiment, termed the gene pool concept, represented initial efforts to test the ability of crosses among different species, subspecies, and strains of pheasants of the genus Phasianus to produce self-maintaining populations south of the contiguous range now occupied by pheasants in Illinois. Wild Illinois pheasants survived in significantly greater numbers than California birds. Survival of the sex and age groups of each strain was similar. Reproductive success of the wild Illinois birds and of their progeny, in 1960 and 1961, was similar to that of pheasants in self-maintaining populations; California birds, for the most part, failed to reproduce. The rate of death among adult hens during late summer was probably higher at Neoga than within the established pheasant range. Survival of pheasant hens from October to the following May averaged 28 percent for the 2 years, 1960-61 and 1961-62, and was apparently insufficient to allow establishment and continuation of the population. Factors preventing the southward extension of self-maintaining pheasant populations in Illinois are concerned more with survival than with reproduction.

Babutia, Teodor, and others. CERCETĂRI ASUPRA INCUBATIEI OUĂLOR SI CRESTERII PUILOR DE FAZAN CU AJUTORUL APARATELOR, COMPARATIV CU INCUBATIA SI CRESTEREA PRIN GĂINI DOMESTICE. [ON THE INCUBATION OF EGGS AND REARING OF PHEASANT POULT WITH THE AID OF APPARATUS AS COMPARED WITH THE INCUBATION AND REARING WITH THE AID OF DOMESTIC HENS.] Studii si Cercetări 22-A: 57-84, 11 figs. [Aug. 1961.] In Rumanian with Russian, German and English summ. WR 114: 41

Britt, Ralph E. THEY ARE GETTING HARDER TO HIT...WILDER PHEASANTS. Pa. Game News 35(3): 20-21, illus. Mar. 1964. WR 114: 41
[Pa. Game Comm., Harrisburg.] Wild-collected and wild-trapped pheasants are being used to provide the stock produced at Pa. state game farms. It is expected that by 1966 pheasants released by the Pa. Game Commission will be much wilder than those currently being released.

Chesness, Robert A., and Maynard M. Nelson. ILLEGAL KILL OF HEN PHEASANTS IN MINNESOTA. J. Wildl. Mgmt. 28(2): 249-253. Apr. 1964. WR 114: 41
[Minn. Dept. Conserv., Madelia.] Abstract: Calculations based on information obtained by interviewing hunters suggest that in recent years 3-6 percent of the preseason hen pheasant (Phasianus colchicus) population has been killed in Minnesota during cock-only hunting seasons. Calculations based on X-ray examination to determine incidence of lead shot in birds dying after the hunting season indicate a hen kill of 11 percent, a figure similar to that in adjacent states. There are biases connected with both methods; however, the X-ray method probably provides the most accurate measure of illegal hen kill.

Edwards, William R., Peter J. Mikolaj, and Edward A. Leite. IMPLICATIONS FROM WINTER-SPRING WEIGHTS OF PHEASANTS. J. Wildl. Mgmt. 28(2): 270-279, 4 figs. Apr. 1964. WR 114: 41
[Ill. Nat. Hist. Surv., Urbana.] Abstract: Ecological implications regarding reproductive condition were obtained from weights of pheasants (Phasianus colchicus) killed accidentally in Ohio from January through June, 1961. Weights of female pheasants averaged 35.0 ounces. Hens had a low mean weight of about 31 ounces in early January and a high of about 37 ounces in early May. Weights of cocks had a mean of 44.8 ounces but did not exhibit as great a proportionate weight change, although similar seasonal trends were evident. Mean weights of both sexes declined during the nesting season. On the basis of data from this and other studies, it was postulated (1) that in some years the reproductive success of pheasants is partially controlled by the severity of winter weather and its subsequent effect on the physical condition of hens in early spring, and (2) that there is an increasing probability of excessive hen mortality and lowered reproductive success as weights in early May fall below about 37 ounces.

Gilfillan, Merrill C. WHAT ABOUT THAT URBANA GAME FARM? Ohio Conserv. Bull. 28(4): 22-24, illus. Apr. 1964. WR 114: 41
[Ohio Dept. Nat. Resources, 1500 Dublin Rd., Columbus.] Ohio's game farm at Urbana was operated during 1932-1963 and produced for distribution 548,272 pheasant eggs and 1,508,465 pheasants. The majority were distributed to sportsmen's clubs for hatching and rearing, but some were reared and released by the state agency during the hunting season. Future plans call for only in-season releases of adult pheasants on selected public hunting areas, the birds to be purchased from private breeders. It was estimated that $50,000 will be saved annually, and it is planned to use the money saved for expanding the area in land for public hunting.

Harper, James A. CALCIUM IN GRIT CONSUMED BY HEN PHEASANTS IN EAST-CENTRAL ILLINOIS. J. Wildl. Mgmt. 28(2): 264-270, 3 figs. Apr. 1964. WR 114: 42

[Oreg. State Game Comm., Corvallis.] Abstract: This paper discusses the amount of calcium occurring in the grit from gizzards of 178 wild, adult pheasant hens (Phasianus colchicus) collected in east-central Illinois during the nesting cycle and during each month of the year. Grit was found in gizzards of hens collected in every month. Calcitic grit was found in the gizzards of hens in all months except December and January; calcite contained 35.6 percent calcium. Dolomitic grit was found in gizzards of hens in almost negligible quantities during April-July, only. The level of calcium in gizzard grit from wild hens was greatest during the nesting season, reaching a maximum of 3.0 percent in late May. Among hens with known egg-laying records, the amount of calcium in the gizzard grit did not reach a level exceeding 2.0 percent until after the sixth or seventh egg had been laid. The calcium level in the grit from gizzards of hens that had laid six or seven eggs remained between 2.0 and 2.5 percent throughout egg laying and into the first few days of incubation, and then declined to near negligible amounts during the remainder of the 23-day incubation period. Calcium in gizzard grit of hens was less than 1.0 percent during the brooding season of July and August. Calcium in the grit from gizzards of wild hens increased from 0.1 percent in August to 2.6 percent in September and remained near this level during October and November; this increase in calcium ingestion in fall may be associated with a sexual recrudescence among both hens and cocks. Calcium was absent from gizzard grit during December and January and was found only at levels of 0.2 percent in February and 0.1 percent in March. Wild hens demonstrated the ability not only to select calcareous grit from noncalcareous grit but also to ingest selectively calcium-rich limestone; the grit in gizzards contained disproportionately more calcite than dolomite with respect to their ratio of availability.

Paludan, Knud. RESULTS OF PHEASANT MARKINGS IN DENMARK 1949-55. Danish Rev. Game Biol. 4(1): 1-23. 1959. WR 114: 42

During 1949-1955, a total of 4,928 adult and 9,366 chicks and subadult pheasants were marked and released. Until the end of 1958, a total of 489 (9.9%) of the adults and 565 (6.0%) of the young were recovered. The mean annual mortality rate for birds released as adults was 71.1%. In order to attain a suitable sex ratio, cocks should be shot selectively until mortality is about 90%. About one third of the released chicks died before the first shooting season. The maximum distance traveled by marked birds was 17 km.--From summ.

Thompson, Don. HEAVY HAYFIELD PHEASANT LOSSES MEAN LIGHTER GAME BAGS. Ohio Conserv. Bull. 28(5): 20-22, illus. May 1964. WR 114: 42

[Ohio Div. Wildl., Columbus.] The annual loss of ring-necked pheasants in connection with hay mowing in Ohio is equal to half of the annual harvest. Suggestions for reducing losses,include: (1) mow last those areas known to contain nests of pheasant and other game, (2) start mowing in center of field, (3) mow early in the season, (4) use flushing bars, and (5) confine mowing to daylight hours.

Warnock, John E., and G. Blair Joselyn. RENESTING OF A WILD PHEASANT HEN. Wilson Bull. 76(1): 97-98. Mar. 1964. WR 114: 42

[Ill. Nat. Hist. Surv., Urbana.] A marked hen renested after her first nest was destroyed at an advanced stage of incubation. The second clutch contained 6 infertile eggs and one egg which hatched on 25 July.

Bump, Gardiner, and Janet W. Bump. A STUDY AND REVIEW OF THE BLACK FRANCOLIN AND THE GRAY FRANCOLIN. US F&WS Spec. Sci. Rept.--Wildl. no. 81. vi + 86 p., 49 figs. Apr. 1964. WR 114: 43

[U. S. Fish & Wildl. Serv., Washington, D. C.] Abstract: This report summarizes the taxonomy and distribution of representatives of the genus Francolinus native to southern Asia and their introduction into other regions. Of these the northern black francolin (Francolinus francolinus asiae) and the northern gray francolin (Francolinus pondicerianus interpositus) are singled out for detailed consideration since trial releases of these two subspecies are currently underway in southern and southwestern United States. Topics covered include descriptions, habitat, climatic requirements, food and water, general habits, effect of predation, reproductive capacity, and diseases and parasites. An analysis of competing interests, including man and game, breeding, rearing and trapping are also considered.

Eley Game Advisory Station. PARTRIDGE REARING. Eley Game Advisory Serv. (formerly I.C.I. Game Serv.) Booklet 4. 43 p., illus. Revised Spring 1964. WR 114: 43

[Fordingbridge, Hampshire, England.] Sources of eggs, mating hand-reared partridges, bantam brooding, rearing in artificial brooders, movable pens, feeding, wintering breeding stock, releasing hand-reared birds, and suppliers of equipment are discussed.

Ivanter, E. V. [LYRURUS TETRIX IN KARELIA.] Ornitologija (Moscow) no. 6. p. 68-80. 1963. [From Commonwealth Forestry Bur., Centralized Title Serv. Cards, 17 Feb. 1964. In Russian.] WR 114: 43

A study of the black grouse's biology and ecology, with special reference to its feeding, including detailed results of crop analyses (93 in all) in spring/summer, autumn, and winter. Generative and vegetative organs of trees formed a substantial part of the diet.--Courtesy/ Frank M. Johnson.

Paludan, Knud. PARTRIDGE MARKINGS IN DENMARK. Danish Rev. Game Biol. 4(1): 25-58, 5 figs. 1963. WR 114: 43

A total of 13,203 partridges (Perdix perdix) were banded and released during 1950-1958, and 397 (3.0%) of these were recovered. The mean annual mortality was approximately 84% among birds released as adults. Only one-fifth of chicks released in summer were alive by Nov. Approximately three-fourths of the recoveries were made within 2 km of the release site, and the maximum distance of movement was 17 km. A mass release in Nov. hardly affected the hunting kill the following season. Wild birds survived longer than captive-reared birds.--From summ.

Sutton, George Miksch. ON PLUMAGES OF THE YOUNG LESSER PRAIRIE CHICKEN. Southwestern Nat. 9(1): 1-5, 2 figs. + 1 pl. 10 Apr. 1964. WR 114: 43

[Univ. Okla., Norman.] The downy plumage of the Tympanuchus pallidicinctus is described and comparisons are made with that of the greater prairie chicken (T. cupido pinnatus).

Watson, Adam. AGGRESSION AND POPULATION REGULATION IN RED GROUSE. Nature 202(4931): 506-507, 1 fig. May 1964. WR 114: 43

[Univ. Aberdeen, Aberdeen, Scotland.] In populations of red grouse (Lagopus lagopus), highly significant correlations were found between aggressive behavior, territory size, and poor cover. Cocks established territories in Aug.-Sept., and territories were maintained with little change through the following breeding season. Cocks not finding territories in Aug.-Sept. did not breed the following year, and most died before Apr.

Watson, Adam, and David Jenkins. NOTES ON THE BEHAVIOUR OF THE RED GROUSE. British Birds 57(4): 137-170, 4 figs. + 1 pl. Apr. 1964. WR 114: 43

[Univ. Aberdeen, Aberdeen, Scotland.] Seasonal changes in behavior, breeding behavior, behavior of young, reactions to predators and non-predators, distraction behavior, feeding, resting, voice of adults, voice of young, sexual activity, displacement activities and agonistic behavior in Lagopus lagopus scoticus are discussed.

TURKEY

Arner, Dale H., and Verne E. Davison. WILD TURKEYS ON SOUTHEASTERN FARMS AND WOODLANDS. USDA Leafl. 526. 8 p., illus. Oct. 1963. WR 114: 44

[Miss. State Coll., Starkville.] Natural habitat, choice foods, planting foods, improving woodlands, providing drinking water, and protecting of wild turkeys are discussed.

Glazener, W. C., A. S. Jackson, and M. L. Cox. THE TEXAS DROP-NET TURKEY TRAP. J. Wildl. Mgmt. 28(2): 280-287, 6 figs. Apr. 1964. WR 114: 44

[Welder Wildl. Foundation, P. O. Box 1396, Sinton, Texas.] Abstract: A drop-net turkey trap, 75 x 75 feet in dimension, was developed by Texas biologists in 1943. Subsequent modifications included size reduction to 60 x 60 feet, increased size of the net cord and mesh, and use of four corner winches to control net tension. The Game and Fish Commission began operational use of the trap for taking wild broodstock in 1945; since 1952 it has been used almost exclusively. The trap has been highly effective in taking the Rio Grande turkey (Meleagris gallopavo intermedia) under conditions common to its range in Texas. Catches normally range from 30 to 50 turkeys, numbers which can be handled safely with a small crew. The maximum recorded catch of 130 birds proved excessive and resulted in mortalities. Advantages of the drop-net trap outweigh its disadvantages, with regard to its use in Texas.

Halloran, Arthur F. HISTORY AND POPULATION DYNAMICS OF TURKEYS ON THE WICHITA MOUNTAINS WILDLIFE REFUGE, OKLAHOMA. Southwestern Nat. 9(2): 94-98. 15 May 1964. WR 114: 44

[Wichita Mountains Wildl. Refuge, Cache, Okla.] Higher than average precipitation in May and June appears to be detrimental to poult survival.

Hutt, Art. THE FLORIDA WILD TURKEY. Fla. Wildl. 17(11): 20-24, 30-31, illus. Apr. 1964. WR 114: 44

[Fla. Game & Fresh Water Fish Comm., Tallahassee.] The wild turkey population of Fla. increased from 25,000 to 75,000 between 1950 and 1960. "Changes in land use, public attitudes, protection, management and research (since 1950) have been largely responsible." The management program consisted of trapping and re-locating wild birds by dropping them from planes. Birds were dropped from a height of about 200 feet at 45 miles per hour.

Whedon, Parker. TURKEY HUNTING VERSUS TURKEY SHOOTING. Wildl. in N. C. 28(4): 14-15, illus. Apr. 1964. WR 114: 44

The president of the N. C. Turkey Hunters' Association presents an argument against spring turkey hunting, using the plea that, although spring hunting may be a sound turkey management practice, it makes killing too easy and may endanger continuity of the more challenging sport of fall hunting.

DOVES AND PIGEONS

Ferguson-Lees, I. J. STUDIES OF LESS FAMILIAR BIRDS. 127. COLLARED DOVE. British Birds 57(4): 170-175 + 4 pls. Apr. 1964. WR 114: 44

A synopsis of the collared dove's (Streptopelia decaocto) expansion of range in Europe and into the British Isles. A few notes are also cited on breeding biology.

Goforth, W. Reid. MALE MOURNING DOVE REARS YOUNG UNAIDED. Auk 81(2): 233. Apr. 1964. WR 114: 44

[Coop. Wildl. Res. Unit, Columbia, Mo.] A caged ♂ mourning dove incubated eggs and reared the resulting young after the ♀ had been removed from the cage on the fourth day of incubation. Rearing the young to fledging age required 3-4 days longer than was normally required by pairs in the cages.

Jackson, Gary L., and Thomas S. Baskett. PERCH-COOING AND OTHER ASPECTS OF BREEDING BEHAVIOR OF MOURNING DOVES. J. Wildl. Mgmt. 28(2): 293-307, 6 figs. Apr. 1964. WR 114: 45

[Mo. Coop. Wildl. Res. Unit, Columbia.] Abstract: Results of this study confirm that free-living mourning doves (Zenaidura macroura) have three important cooing characteristics noted in penned doves by Frankel and Baskett (1961: 375-379, 382): (1) unmated males issue the perch coo much more frequently than mated males, (2) unmated males maintain a high rate of cooing for a longer period each morning than do mated males, and (3) the position of a mated male in a successful nesting cycle has relatively little effect on the rate of cooing. Unmated males in the present study performed flapping-gliding flight much more frequently than mated ones, and were much more mobile. Mated males in moderate-density populations defended discrete territories 70-100 yards in diameter throughout each breeding cycle. Unmated males repelled intruders at each of several occupied cooing perches within large areas, but it is doubtful that these areas were territories. Courtship, copulation, and nest building are described in detail, and three-bird chases are discussed.

Murton, R. K., A. J. Isaacson, and N. J. Westwood. THE FOOD AND GROWTH OF NESTLING WOOD-PIGEONS IN RELATION TO THE BREEDING SEASON. Proc. Zool. Soc. London 141(4): 747-781, 7 figs. Dec. 1963. WR 114: 45

[Ministry Agr., Fisheries & Food, Tangley Place, Worplesdon, Guilford, Surrey, England.] The mean weight of nestlings hatched in late June was below that of those hatched in Aug. and Sept. Feather growth of the earlier birds was also slower, and many died in the nest, presumably from malnutrition. Survival was better in nests containing one than in those containing two young. Food supply was considered to be the critical factor effecting the differences. --From abstr.

Murton, R. K., N. J. Westwood, and A. J. Isaacson. THE FEEDING HABITS OF THE WOODPIGEON COLUMBA PALUMBUS, STOCK DOVE C. OENAS AND TURTLE DOVE STREPTOPELIA TURTUR. Ibis 106(2): 174-188, 2 figs. Apr. 1964. WR 114: 45

[Ministry Agr., Fisheries & Food, Tangley Place, Worplesdon, Guilford, Surrey, England.] Wood pigeons fed primarily on plant leaves during the winter, cereal seed during the spring seeding season, plant leaves during period between seeding and ripening of cereals, and cereals during period July-Nov. Stock doves fed primarily on weed seeds throughout the year. Turtle doves fed primarily on seeds of Fumaria. The wood pigeon, stock dove, and turtle doves have increased in numbers and range following development of agriculture. The rock dove has decreased, possibly because of competition for food with the stock dove and wood pigeon. The distribution of the turtle dove matches the distribution of its major food plant.--From summ.

Nickell, Walter P. THE EFFECTS OF PROBABLE FROSTBITE ON THE FEET OF MOURNING DOVES WINTERING IN SOUTHERN MICHIGAN. Wilson Bull. 76(1): 94-95, 2 figs. Mar. 1964. WR 114: 45

[Cranbrook Inst. Sci., Bloomfield Hills, Mich.] Missing toes were thought to have been lost as a result of exposure to extreme cold.

WATERFOWL

Bolen, E. G., B. McDaniel, and C. Cottam. NATURAL HISTORY OF THE BLACK-BELLIED TREE DUCK (DENDROCYGNA AUTUMNALIS) IN SOUTHERN TEXAS. Southwestern Nat. 9(2): 78-88, 1 fig. 15 May 1964. WR 114: 45

[Welder Wildl. Foundation, Sinton, Texas.] Contains information chiefly on nesting habits, nest predation and dump nests.

Carney, Samuel M. PRELIMINARY KEYS TO WATERFOWL AGE AND SEX IDENTIFICATION BY MEANS OF WING PLUMAGE. US F&WS Spec. Sci. Rept.--Wildl. no. 82. vi + 47 p., illus. Mar. 1964. WR 114: 45

[Patuxent Wildl. Res. Center, Laurel, Md.] Contains keys for determining age and sex of 26 of the more common spp. of waterfowl.--From abstr.

Crooks, S. E., and J. H. Jones. HAEMORRHAGE IN TRACHEA OF DEAD RED-BREASTED MERGANSER. British Birds 57(4): 181. Apr. 1964. WR 114: 46

A red-breasted merganser (Mergus serrator) was found dead with a large blood clot in its trachea and was thought to have died from asphyxiation. The hemorrhage was determined to have been caused by a bacterial or viral infection.

Dane, Benjamin, and William G. van der Kloot. AN ANALYSIS OF THE DISPLAY OF THE GOLDENEYE DUCK (BUCEPHALA CLANGULA L.). Behaviour 22(3-4): 282-328, 6 figs. 1964. [In English with German summ.] WR 114: 46

[Stanford Univ., Stanford, Calif.] A detailed analysis was made of the courtship display of the goldeneye based on 22,000 feet of motion picture film. Thirty references are cited.

Davies, S. J. J. F., and H. J. Frith. SOME COMMENTS ON THE TAXONOMIC POSITION OF THE MAGPIE GOOSE ANSERANAS SEMIPALMATA (LATHAM). Emu 63(4): 265-272 + 1 pl. Mar. 1964. WR 114: 46

[Div. Wildl. Res., CSIRO, Canberra, Australia.] Information on morphological adaptations to its habitat, on feeding the young, and on molting of the magpie goose.--From summ.

Frith, H. J. MOVEMENTS AND MORTALITY RATES OF THE BLACK DUCK AND GREY TEAL IN SOUTH-EASTERN AUSTRALIA. CSIRO Wildl. Res. 8(2): 119-131, 3 figs. Dec. 1963. WR 114: 46

[Div. Wildl. Res., CSIRO, Canberra, Australia.] Summary: The movement pattern, mortality, and survival of the black duck are analysed and compared with those of the grey teal. The black duck is more sedentary than the grey teal, although at times extensive movements are undertaken. A regular north-south movement exists in addition to more irregular random dispersal. The mortality rates are shown to be greater and the expectation of further life less for the grey teal than the black duck, the more sedentary species.

Glover, Fred A., and J. Donald Smith. WATERFOWL STATUS REPORT, 1963. US F&WS, Spec. Sci. Rept.--Wildl. no. 75. iv + 178 p. Oct. 1963. WR 114: 46

[Colo. Coop. Wildl. Res. Unit, Fort Collins.] The scope of the investigation and the methods used are discussed in the first section. Discussions follow by flyway of the waterfowl kill survey, wing collection survey, winter survey and the breeding ground survey. Weather and habitat conditions and production indexes by states or provinces are discussed. An estimated 4,007,300 ducks were bagged and an additional 1,007,300 were knocked down but not retrieved.

Johnsgard, Paul A. COMPARATIVE BEHAVIOR AND RELATIONSHIPS OF THE EIDERS. Condor 66(2): 113-129, 4 figs. Mar. 1964. WR 114: 46

[Univ. Nebr., Lincoln.] Based on behavioral differences and similarities, taxonomic implications are derived.

McCabe, Robert A. AN UNUSUAL MALLARD NEST. Wilson Bull. 75(4): 457-458, illus. Dec. 1963. WR 114: 46

[Univ. Wis., Madison.] The nest was in a rain gutter on the roof of a 4-story dormitory. The eggs were either infertile or addled early in incubation.

McKinley, Daniel. SLAUGHTER AT SWAN LAKE. Audubon Magazine 66(3): 144-145. May-June 1964. WR 114: 46

[Lake Erie Coll., Painesville, Ohio.] Swan Lake Federal Waterfowl Refuge was established in 1937. In 1955, one tenth of the refuge was made available to the Mo. Conserv. Comm. for use as a public shooting area, and the area chosen consisted of a narrow strip around the refuge. Dead and crippled birds may not legally be retrieved if they fall within the area closed to public shooting. In a survey of about 10% of the refuge perimeter the author found 470 dead and crippled geese. "As a biologist, I visited Swan Lake to study the impact of the newly-allowed shooting season there.... Sometimes I wonder if it might not be better if 'game' management were forgotten altogether and a form of poultry husbandry were instituted instead."

Merz, Robert W., and George K. Brakhage. THE MANAGEMENT OF PIN OAK IN A DUCK SHOOTING AREA. J. Wildl. Mgmt. 28(2): 233-239, 4 figs. Apr. 1964. WR 114: 47

[Central States Forest Expt. Sta., Columbus, Ohio.] Abstract: Study plots in normal and artificially flooded pin oak (Quercus palustris) stands at the Duck Creek Wildlife Management Area in southeastern Missouri indicate that good pin oak acorn crops are probably cyclic and that dormant season flooding apparently does not affect acorn production. Extensive study showed that clearing all but the desired acorn-producing trees and seeding Japanese millet (Echinochloa crusgalli var. frumentacea) in the clearings is a satisfactory means of supplementing pin oak mast as food in a duck shooting area. Duck kill per hunter during 2 comparable years averaged higher in blinds where both pin oak mast and millet were available.

Olsson, Viking. MÄRKNINGAR OCH ÅTERFYND AV SVENSKA GRÄSÄNDER, ANAS PLATYRHYNCHOS L. [RECOVERIES OF MARKED SWEDISH MALLARDS ANAS PLATYRHYNCHOS L.] Viltrevy 2(2): 87-152, 16 figs. 1960. In Swedish with English summ. WR 114: 47

Oring, Lewis W. BEHAVIOR AND ECOLOGY OF CERTAIN DUCKS DURING THE POST-BREEDING PERIOD. J. Wildl. Mgmt. 28(2): 223-233. Apr. 1964. WR 114: 47

[Univ. Okla., Norman.] Abstract: Behavior and ecology of 13 species of ducks were studied from June 5 to August 29, 1961, at Camas National Wildlife Refuge, southeastern Idaho. Drakes were observed from the time they deserted their hens until they renewed their flight feathers, hens from the time they left their broods until they regained flight. Males of most species left their mates at the onset of, or early in, the incubation period and formed large aggregations, which persisted throughout the flightless period. Mallards (Anas platyrhynchos) were first to form such groups, followed in the order named by pintails (Anas acuta), other dabbling ducks, and diving ducks. These pre-flightless flocks fed most actively in early morning, then bathed and played. The birds spent most of the daylight hours preening, sleeping, or resting along the shore. Concentrations of dabbling ducks were present in all marshes larger than a few acres. Diving ducks and American widgeons (Mareca americana) gathered on large lakes and remained in open water. Most females remained in or near their brood-rearing areas during wing-molt; a few joined the males.

Ripley, S. Dillon. COURTSHIP IN THE RING-NECKED DUCK. Wilson Bull. 75(4): 373-375, 2 figs. Dec. 1963. WR 114: 47

[U. S. Natl. Museum, Washington, D. C.] The following components of courtship are discussed: neck stretch, male threat, female threat, mutual display, burping and lateral threat display. The lateral threat display is presumably described for the first time.

Rogers, John P. A DECOY TRAP FOR MALE LESSER SCAUPS. J. Wildl. Mgmt. 28 (2): 408-410, 1 fig. Apr. 1964. WR 114: 47

[Univ. Mo., Puxico.] Abstract: A trap containing a live female was used to catch 1 female and 35 male lesser scaups (Aythya affinis) during May and June in Manitoba. Although tried only on scaups, the technique should work for other species as well and should be useful for trapping and marking wild males in the breeding season, when they are particularly difficult to catch.

Rogers, John P. EFFECT OF DROUGHT ON REPRODUCTION OF THE LESSER SCAUP. J. Wildl. Mgmt. 28(2): 213-222, 4 figs. Apr. 1964. WR 114: 47

[Gaylord Memorial Lab., Univ. Mo., Puxico.] Abstract: Responses of the lesser scaup (Aythya affinis) to severe drought were studied on a 1-square-mile pothole area in southwestern Manitoba from 1957 to 1960. The population decreased 63 percent in 1959 and 29 percent in 1960. The decline resulted from an abrupt decrease in water level. This caused an abnormally early departure of pairs from their nesting potholes, which were either dry or had wide mud flats exposed around the perimeters early in the season. Another important factor in the decline was a failure in production. In 1959, when habitat conditions were poorest, nesting was inhibited in most of the resident

pairs. Searching by hens for nest sites decreased in intensity, and only 8 percent of the pairs nested. Groups of pairs loafed on the larger potholes throughout the season. Inhibition was reflected in low ovarian weights and follicular atresia. The presence of mud flats, rather than lack of nesting cover around the pothole perimeters, appeared to be the inhibitory factor. In 1958 and 1960, strong nesting efforts were made but were broken up by excessive predation, mostly by skunks (Mephitis mephitis). Scaups appear to be more vulnerable than other ducks to nest predators because they nest late in the season when predators are more abundant, and they nest close to the edge of the water where predators frequently hunt. The effect of nest predation on scaup production is especially severe because few hens renest if the first nest is lost.

Rowan, M. K. THE YELLOWBILL DUCK ANAS UNDULATA DUBOIS IN SOUTHERN AFRICA. Ostrich, Suppl. no. 5. iv + 56 p., 16 figs. Dec. 1963. WR 114: 48
[Univ. Cape Town, Republic of South Africa.] Covers habitat, distribution, population, movements, breeding biology, hybrids, molt, weights, and measurements.

Sickles, Raymond M. PYMATUNING WRAP-UP / 1963. Pa. Game News 35(3): 12-15, illus. Mar. 1964. WR 114: 48
Despite a 2 weeks' hunting ban because of fire hazard, more waterfowl were bagged in 1913 at the Pymatuning Goose Management Area than were bagged in 1962. A harvest of 1383 geese was made by 3002 hunters in 1963.

Teer, James G. PREDATION BY LONG-TAILED WEASELS ON EGGS OF BLUE-WINGED TEAL. J. Wildl. Mgmt. 28(2): 404-406, 2 figs. Apr. 1964. WR 114: 48
[Texas A & M Univ., College Station.] Abstract: A study of nesting waterfowl and of predation on the nests was made in the summer of 1954 in meadowland adjacent to the Delta Marsh at Delta, Manitoba. Of 59 nests for which complete histories were obtained, 23 were destroyed by skunks (Mephitis mephitis), crows (Corvus brachyrhynchos), and Franklin ground squirrels (Citellus franklinii). Loss of three other nests, all of blue-winged teals (Anas discors), was attributed to long-tailed weasels (Mustela frenata) on the basis of evidence at the nests and the results of experimental feeding of eggs to a captive weasel. Uniquely broken eggs in the disrupted teal nests had small, round, paired punctures unlike damage inflicted by crows, skunks, or Franklin ground squirrels, but identical with punctures made by the captive weasel.

Vaught, Richard W. RESULTS OF TRANSPLANTING FLIGHTLESS YOUNG BLUE-WINGED TEAL. J. Wildl. Mgmt. 28(2): 208-212, 1 fig. Apr. 1964. WR 114: 48
[Mo. Conserv. Comm., Columbia.] Abstract: During a 3-year period, 377 local (flightless young) and 14 adult blue-winged teal (Querquedula discors) were transferred from Minnesota to Missouri in an effort to reestablish nesting populations. All releases were banded and color-marked at release sites. Direct recoveries following release indicated that northward migration occurred after the blue-wings were capable of flight; some recoveries suggested migrational homing. Types of homing, as described by Griffin (1952), probably were involved in flights from release sites to recovery areas. No color-marked ducks were recorded at release sites in spring, indicating that this attempt to reestablish nesting blue-winged teal by the release of flightless ducklings without parents was unsuccessful.

Wood, Jack S. NORMAL DEVELOPMENT AND CAUSES OF REPRODUCTIVE FAILURE IN CANADA GEESE. J. Wildl. Mgmt. 28(2): 197-208, 2 figs. Apr. 1964. WR 114: 48
[Western Mich. Univ., Kalamazoo.] Abstract: This is a 4-year study of reproductive development, the effects of hormonal treatments on development, and the influence of reproductive suppression by adverse environmental conditions in 148 semidomesticated Canada geese (Branta canadensis). Chicken pituitaries, diethylstilbestrol, pregnant mare's serum, and photoperiod variation were used in several combinations to mature 2-year-old geese artificially

and also to stimulate nonreproducing adults. Reproductive maturity normally occurs in the third year, but a small percentage of geese mature in the second year. A single subcutaneous injection of 2-year birds with 1.5 chicken pituitaries per bird resulted in marked follicular development but no oviductal development. Increased dosage did not change this response significantly. When these geese were placed under crowded conditions, the reproductive organs of nonreproducing 3-year-old geese matured normally and maintained a stimulated condition without ovulation. Administration of additional exogenous gonadotrophins had no further maturation effects. Subsequent release from crowding resulted in nesting within a few days without significant reduction in clutch size. It was postulated that reproductive failure resulted from a lack of ovulatory peaks in the secretion rate of the luteinizing hormone. Progesterone treatment of nonreproducing adult females did not induce ovulation.

CRANES, RAILS, SHOREBIRDS

Clement, Roland C. THE WHOOPING CRANE: TODAY AND TOMORROW / SOME MEN THINK THEY CAN RAISE THIS BIRD BETTER THAN NATURE. Audubon Magazine 66(2): 74-77, illus. Mar.-Apr. 1964. WR 114: 49

[Natl. Audubon Soc., 1130 Fifth Ave., New York, N. Y.] Disagreeing with the recommendation that the remaining wild whooping cranes should be trapped or their eggs collected for captive rearing, Clement expresses the belief that the remaining birds should be permitted to continue breeding in the wild.

Dow, Douglas D., and M. Anne Dow. MASS MORTALITY OF GULLS AT RONDEAU PARK, LAKE ERIE. Canadian Field-Nat. 78(1): 62. Jan.-Mar. 1964. WR 114: 49

[Univ. British Columbia, Vancouver 8, Canada.] On Oct. 22, 1963, the writers found 80 dead gulls on 1.25 miles of beach at Rondeau Provincial Park, Ontario. The cause of mortality was not determined, but water pollution was suspected.

Evans, P. R. WADER MEASUREMENTS AND WADER MIGRATION. Bird Study 11(1): 23-38, 3 figs. Mar. 1964. WR 114: 49

[Monks' House, Seahouses, Northumberland, England.] Measurements of body parts of trapped birds can be used for sex and age determinations useful in studies of shorebird migrations. Of measurements taken from museum specimens, only bill lengths can be compared with measurements taken from living birds. Existing methods of taking wing measurements were found to give inconsistent results, and a new method of taking these measurements was suggested.

Gersbacher, Eva Oxford. HERONRIES OF REELFOOT LAKE--25 YEARS LATER. J. Tenn. Acad. Sci. 39(1): 15-16, 1 fig. Jan. 1964. WR 114: 49

[Sesser Community Unit, Sesser, Ill.] In 1938, there were 2 heronries near Reelfoot Lake, Tenn.; in 1963, one of these was abandoned and another was started. Changes were also noted in species composition of the heronries and in feeding habits of the birds.

Kahl, M. Philip, Jr. FOOD ECOLOGY OF THE WOOD STORK (MYCTERIA AMERICANA) IN FLORIDA. Ecol. Monographs 34(2): 97-117, 15 figs. Spring 1964. WR 114: 49

[Makerere Coll., Kampala, Uganda, East Africa.] It was calculated that a colony of 6000 wood ibises (Mycteria americana) requires more than 2.5 million pounds of fish in one nesting season. Most of the fish were caught within 20 miles of the nesting sites. Fish availability was influenced by flooding of the area surrounding the colony. Egg-laying occurs in most years at the beginning of the dry season (Dec.-Jan.). Following years of extreme drought, nesting may not occur. Wood ibises wander northward after the nesting season when the fish population is at its lowest level. Observations are given on the fish-catching technique of the wood ibis.--From summ.

Liscinsky, Steve. THE PENNSYLVANIA WOODCOCK STUDY. PART V. Pa. Game News 35(5): 24-28, illus. May 1964. WR 114: 50
[Pa. Game Comm., Harrisburg.] The use of planting, cutting, spraying and grazing in woodcock management is discussed.

Martin, Fant W. WOODCOCK AGE AND SEX DETERMINATION FROM WINGS. J. Wildl. Mgmt. 28(2): 287-293, 1 fig. Apr. 1964. WR 114: 50
[Patuxent Wildl. Res. Center, Laurel, Md.] Abstract: Age of woodcock (Philohela minor) can be accurately determined throughout the year by differences in pattern, color, and wear of secondary feathers. Immature woodcock retain most secondaries during the postjuvenal molt that begins in July or August and ends in October. In contrast, subadults (first-year adults) and older woodcock molt all secondaries during the postnuptial molt beginning in June or July and ending in October. Retention of juvenal secondaries by immatures and molt of these feathers by adults form the basis for age determination. Sex of woodcock can be accurately determined by width of the outer three primaries, which are conspicuously narrower on males.

Orr, Robert T. FLYCATCHING BY WANDERING TATTLERS (HETEROSCELUS INCANUM). Auk 81(2): 221-222. Apr. 1964. WR 114: 50
[Univ. San Francisco, San Francisco, Calif.]

Parrinder, E. R. LITTLE RINGED PLOVERS IN BRITAIN DURING 1960-62. British Birds 57(5): 191-198, 2 figs. May 1964. WR 114: 50
The little ringed plover (Charadrius dubius) first nested in Britain in 1938 and has continually increased so that about 160 pairs occurred in 1962. The increase was aided by an increase of gravel pits.

Schmidt, Gerald D. PARASITES FROM THE COMMON SNIPE CAPELLA GALLINAGO DELICATA IN NORTHERN COLORADO. Am. Midland Nat. 71(2): 503. Apr. 1964. WR 114: 50
[Mont. State Univ., Missoula.] Reports of 12 parasites of which 7 were new for North America.

Trautman, Milton B., and Samuel J. Glines. A NESTING OF THE PURPLE GALLINULE (PORPHYRULA MARTINICA) IN OHIO. Auk 81(2): 224-226. Apr. 1964. WR 114: 50
[Ohio State Museum, Columbus.] Details of nesting observations made in central Ohio--the northernmost nesting location of the species.

HAWKS AND OWLS

Ames, Peter L., and Gerald S. Mersereau. SOME FACTORS IN THE DECLINE OF THE OSPREY IN CONNECTICUT. Auk 81(2): 173-185, 1 fig. Apr. 1964. WR 114: 50
[Peabody Museum Nat. Hist., New Haven, Conn.] The breeding population of ospreys (Pandion haliaetus) along the Connecticut River in Conn. decreased from about 200 pairs in early 1940 to 24 pairs in 1963. The main factor responsible for the population decline has been failure of eggs to hatch. Nestling losses have been small. Nesting platforms have been readily utilized, and they reduced nest losses from tidal flooding and predation. Eggs analyzed contain metabolites of DDT up to 100 ppm of egg weight. With continuation of the present rate of population decline, there will be only 1-2 pairs in the area in 1968.--From summ.

Glazener, W. C. NOTE ON THE FEEDING HABITS OF THE CARACARA IN SOUTH TEXAS. Condor 66(2): 162. Mar. 1964. WR 114: 50
[Welder Wildl. Foundation, Sinton, Texas.] Caracaras pursued vultures in flight until food was disgorged by the vultures. The disgorged food was caught by the caracaras as it fell or was retrieved from the ground.

Hanney, P. OBSERVATIONS UPON THE FOOD OF THE BARN OWL (TYTO ALBA) IN SOUTHERN NYASALAND, WITH A METHOD OF ASCERTAINING POPULATION DYNAMICS OF RODENT PREY. Ann. & Magazine Nat. Hist. 6(65): 305-313, 2 figs. May 1963. WR 114: 51

[Nyasaland Museum, Blantyre, Nyasaland, Africa.] Based on pellet examinations. Small rodents were chief food of barn owls, except in wet seasons when birds formed an important part of the diet. Owl pellet analyses were used to investigate status of small mammals not readily trapped but occurring in food of the barn owl. Information upon population dynamics of certain species of rodent prey may be obtained by regular collections of skulls and grouping according to palatilar length.--From summ.

Höglund, Nils H. DER HABICHT ACCIPITER GENTILIS LINNÉ IN FENNOSKANDIA / BERINGUNGERGEBNISSE UND ÖKOLOGISCHE STUDIEN. [THE GOSHAWK, ACCIPITER GENTILIS L., IN FINNISH SCANDINAVIA / BANDING RESULTS AND ECOLOGICAL STUDIES.] Viltrevy 2(4): 195-270, 20 figs., 1 pl. 1964. In German with Swedish summ. WR 114: 51

[Boda försöksstation, Enånger, Sweden.] In an analysis of banding recoveries of 2,481 banded goshawks, 25.4% were recovered. Within a year after banding, 83% of birds banded in Sweden and 91% of those banded in Norway were recovered. Movement occurred in all directions from the hatching places within the first year of life, chiefly during the period Sept.-Nov. Six brooding females were captured on their nests and transported 97-350 km. from their nests, and none were recovered. Severe winter weather causes wandering and mortality of goshawks. A sex ratio of 153 males to 100 females was observed. Goshawks usually do not breed until their second year of life. Clutches averaged 3.4 eggs/clutch, and 2.7 young were produced/nest. About 75% of the recoveries were of birds killed by man. Analysis of a developed life table indicated that the sample could not be representative of the population involved.

Höglund, Nils H. ÜBER DIE ERNÄHRUNG DES HABICHTS (ACCIPITER GENTILIS LIN.) IN SCHWEDEN. [ON THE FOOD OF THE GOSHAWK (ACCIPITER GENTILIS L.) IN SWEDEN.] Viltrevy 2(5): 271-328, 13 figs. 1964. In German with Swedish summ. WR 114: 51

[Boda försöksstation, Enånger, Sweden.] Eating of the food by the young was forestalled until identifications of prey had been made by placing a wire cage over the young in the nest. About 90% of the prey was birds (chiefly Tetraonidae, Corvidae, Turdidae, and Columbidae). There appeared to be no selection of prey. Animals most easily obtained were most utilized. Cannibalism among the nestlings was discussed.

Howell, Thomas R. NOTES ON INCUBATION AND NESTLING TEMPERATURES AND BEHAVIOR OF CAPTIVE OWLS. Wilson Bull. 76(1): 28-36, 2 figs. Mar. 1964. WR 114: 51

[Univ. Calif., Los Angeles.] Information on development of control of body temperature by a barn owl reared in captivity.

Keith, Allan R. A THIRTY-YEAR SUMMARY OF THE NESTING OF THE BARN OWL ON MARTHAS VINEYARD, MASSACHUSETTS. Bird-Banding 35(1): 22-31. Jan. 1964. WR 114: 51

[P. O. Box 256, Montclair, N. J.] During 1932-1960 on Marthas Vineyard, 375-400 barn owls were reared. No barn owls have been seen alive on the island since an unusually heavy snow in the winter of 1960-1961 when more than 10 were found dead.

Keith, Lloyd B. TERRITORIALITY AMONG WINTERING SNOWY OWLS. Canadian Field-Nat. 78(1): 17-24, 2 figs. Jan.-Mar. 1964. WR 114: 51

[Univ. Wis., Madison.] Based on field observations of 10 snowy owls color-marked in Wis., with much information on territorial behavior in winter.

Lamore, Donald H. PREY OF A SPARROW HAWK FAMILY WHEN RAISING YOUNG. Wilson Bull. 75(4): 461. Dec. 1963. WR 114: 51

[Cottey Coll., Nevada, Mo.] Some animals eaten by sparrow hawks were: house sparrow, horned lark, robin and six-lined racer (Cnemidophorus sexlineatus).

Paterson, Andrew. TAWNY OWL ATTACKING FOX IN WINTER. British Birds 57(5): 203. May 1964. WR 114: 52
A tawny owl (Strix aluco) attacked and followed a fox (Vulpes vulpes), seemingly without making body contact. The attack was made in Jan. when the presence of an owl's nest was considered unlikely.

Spofford, Walter R. GOLDEN EAGLE 509-50214. Bird-Banding 35(2): 123-124. Apr. 1964. WR 114: 52
[Upstate Med Coll., Syracuse, N. Y.] A nestling golden eagle banded in Maine was recovered in Pa.

Westcott, Peter W. UNUSUAL FEEDING BEHAVIOR OF A GOSHAWK. Condor 66(2): 163. Mar. 1964. WR 114: 52
[Univ. Ariz., Tucson.] Rather than capturing the Abert squirrel in a sudden stoop, the goshawk entered the tree below and blocked the downward movement of the squirrel. After thus preventing escape of the squirrel for 10-15 minutes, the hawk captured the squirrel.

Williams, Keri. TAWNY OWLS FEEDING YOUNG ON FISH. British Birds 57(5): 202-203 + 1 pl. May 1964. WR 114: 52
Observations were made of 7 fish being brought to the nest as food for the young by a pair of tawny owls (Strix aluco).

BLACKBIRDS, STARLINGS, CROWS

Brewer, Richard. CHIMNEY PERCHING FOR WARMTH IN STARLINGS. Wilson Bull. 75(4): 447-449, 1 fig. Dec. 1963. WR 114: 52
[Western Mich. Univ., Kalamazoo.] At lower air temperatures, increased proportions of starlings observed were sitting on tops of chimneys.

Davis, John, and Laidlaw Williams. THE 1961 IRRUPTION OF THE CLARK'S NUTCRACKER IN CALIFORNIA. Wilson Bull. 76(1): 10-18. Mar. 1964. WR 114: 52
[Univ. Calif., Carmel Valley.] Movements of the Clark's nutcracker from mountain to coastal areas in Calif. appeared to be related to the cone crop in mountain areas. It is concluded that food is the proximate factor motivating irruptions of Clark's nutcrackers, and movements among this species are not triggered by the same mechanism as movements of "ordinary" migrants.--From summ.

Devitt, O. E. AN EXTENSION IN THE BREEDING RANGE OF BREWER'S BLACKBIRD IN ONTARIO. Canadian Field-Nat. 78(1): 42-46, 1 fig. Jan.-Mar. 1964. WR 114: 52
[83 Harding Blvd., Richmond Hill, Ontario, Canada.] During 1962-1963 observations were made to extend the known breeding range of the Brewer's blackbird 221 miles farther eastward.

Fankhauser, Don P. RENESTING AND SECOND NESTING OF INDIVIDUALLY MARKED RED-WINGED BLACKBIRDS. Bird-Banding 35(2): 119-121. Apr. 1964. WR 114: 52
[Patuxent Wildl. Res. Center, Laurel, Md.] Summary: Renesting and second nesting of 26 color-marked female red-winged blackbirds were studied in an area in the Coastal Plain of Maryland. All birds marked at nests with eggs before May 21 that did not successfully raise a brood renested (except three that disappeared soon after being marked). Three cases of second nesting were found.

Fog, Mette. DISTRIBUTION AND FOOD OF THE DANISH ROOKS. Danish Rev. Game Biol. 4(1): 61-91, 6 figs. 1963. WR 114: 52
There were one and a half times as many rookeries in 1960-1963 as in 1909, but the rookeries were much larger in 1909 than in the more recent period. There were more rooks in the earlier period. Nesting colonies of rooks are valued by property owners because of the shooting sport provided, but neighboring property owners frequently object to the maintenance of the colonies because of crop damage. Sport shooting consists of shooting the young when they perch on the edge of the nest or nearby tree branches.

Hardy, John William. BEHAVIOR, HABITAT, AND RELATIONSHIPS OF JAYS OF THE GENUS CYANOLYCA. Occas. Papers C. C. Adams Center Ecol. Studies no. 11. 14 p. 30 Apr. 1964. WR 114: 53
[Western Mich. Univ., Kalamazoo.] Contains sonagrams of various calls, description of habitat and flocking habits and a discussion of the systematic position of the genus.

Hoy, Gunnar, and Johann Ottow. BIOLOGICAL AND OOLOGICAL STUDIES OF THE MOLOTHRINE COWBIRDS (ICTERIDAE) OF ARGENTINA. Auk 81(2): 186-203, 2 figs. Apr. 1964. WR 114: 53
[Museo Botánico y Zoológico, Universidad de Córdoba, Córdoba, Argentina.]

Meanley, Brooke. ORIGIN, STRUCTURE, MOLT, AND DISPERSAL OF A LATE SUMMER RED-WINGED BLACKBIRD POPULATION. Bird-Banding 35(1): 32-36, 2 figs. Jan. 1964. WR 114: 53
[Patuxent Wildl. Res. Center, Laurel, Md.] Banding studies indicate that the late summer Patuxent marsh population is mostly of local origin; and that some individuals return to the marsh for several summers. Probably most individuals remain in the marsh for at least 1 month. The combined adult-immature sex ratio in Aug. 1961 was 52.4% males to 47.6% females in a sample of 1,409 birds; and, in Aug. 1962, the ratio was 57.8% males to 42.2% females in a sample of 1,215 birds. The age ratio of the 1961 sample was 44.4% adults to 55.6% immatures; in the 1962 sample, the ratio was 34.7% adults to 65.3% immatures. The period of molt is mainly from late July to late Sept.; the height of molt coincides with the population peak in the marsh. The difference in the progress of molt of adults and young seems to be too slight to influence differential migration. The main wintering-ground of Patuxent marsh red-winged blackbirds is the South Atlantic Coastal Plain region from southeastern Va. to southeastern Ga.--From summ.

Nero, Robert W. COMPARATIVE BEHAVIOR OF THE YELLOW-HEADED BLACKBIRD, RED-WINGED BLACKBIRD, AND OTHER ICTERIDS. Wilson Bull. 75(4): 376-413, 5 figs. Dec. 1963. WR 114: 53
[Univ. Saskatchewan, Regina, Saskatchewan, Canada.]

Prescott, Kenneth W. BLUE JAY ATTACKS COWBIRD NESTLING. Wilson Bull. 75 (4): 459. Dec. 1963. WR 114: 53
[Acad. Nat. Sci. Philadelphia, Philadelphia, Pa.] A blue jay was seen with a young brown-headed cowbird in its bill. The cowbird, just able to fly, was still alive and flew away upon release.

Roberts, N. L. SOME ASPECTS OF POST-FLEDGING BEHAVIOUR IN THE BLACK-BACKED MAGPIE. Bmu 63(3): 234-241. Nov. 1963. WR 114: 53
[10 Kardella Ave., Killara, New South Wales, Australia.] Feeding behavior, parental dominance, sun-posturing, song, play and fear reactions in Gymnorhina tibicen are discussed.

Schorger, A. W. SPRING MIGRATION OF BLUE JAYS AT MADISON, WISCONSIN. Wilson Bull. 76(1): 6-9, 1 fig. Mar. 1964. WR 114: 53
[Univ. Wis., Madison.] At one site on the southern shore of Lake Mendota, 1,206 blue jays were counted on 7 May 1963 and 1,562 were counted on the following day. Many of the birds flew northward over the lake, but some flew back toward the south after rising into the air and may thus have been counted twice.

Thompson, William L., and Ellen L. Coutlee. THE BIOLOGY AND POPULATION STRUCTURE OF STARLINGS AT AN URBAN ROOST. Wilson Bull. 75(4): 358-372, 8 figs. Dec. 1963. WR 114: 53
[Wayne State Univ., Detroit, Mich.] Discussions on behavior of birds at and approaching the roost site, sex and age composition of roosting populations, seasonal weight fluctuations in age and sex groups, and information on banding recaptures.

OTHER BIRDS

Bell, H. L. DISTRIBUTION OF THE JABIRU IN SOUTH-EASTERN AUSTRALIA. Emu 63 (3): 201-206, 1 fig. Nov. 1963. WR 114: 54

[Australian Staff Coll., Queenscliff, Victoria.] In the past 30 years, the jabiru (Xenorhynchus asiaticus) has reoccupied range in southern areas where earlier displacement resulted from human settlement.

Brown, Woodward H. CAROLINA WREN'S ABILITY TO SURVIVE DURING SEVERE WINTERS. Wilson Bull. 75(4): 449. Dec. 1963. WR 114: 54

[4815 Ingersoll, Des Moines, Iowa.] Data are given to show that snow cover, rather than low temperature, is the factor reducing Carolina wren populations in some winters in the northern part of their range.

Gill, H. B. THE WHITE-TAILED KINGFISHER TANYSIPTERA SYLVIA. Emu 63(4): 273-276. Mar. 1964. WR 114: 54

[Mail Serv. 216, Innisfail, Queensland, Australia.] Information on nesting habits.

Hindwood, K. A., and Michael Sharland. THE SWIFT PARROT. Emu 63(4): 310-326, 2 figs. Mar. 1964. WR 114: 54

[105 Middle Harbour Road, Lindfield, New South Wales, Australia.] On distribution, migration, breeding, food, and feeding habits of the swift parrot (Lathamus discolor) in Australia and Tasmania.--From summ.

Hough, Fred N. THE THRUSHES (TURDIDAE). THEIR OCCURRENCE IN ULSTER COUNTY, N. Y. John Burroughs Nat. Hist. Soc., Res. & Records Comm. Bull. no. 7. 20 p., 2 figs. Jan. 1964. 50¢. WR 114: 54

[Accord, N. Y.] Essays on the 7 spp. and one race of thrushes occurring in Ulster County, N. Y.

Kemsies, Emerson, and Worth Randle. A DISTRIBUTIONAL SUMMARY AND SOME BEHAVIORAL NOTES FOR SMITH'S LONGSPUR, CALCARIUS PICTUS. Canadian Field-Nat. 78(1): 28-31. Jan.-Mar. 1964. WR 114: 54

[Univ. Cincinnati, Cincinnati, Ohio.] Review of recently published observations indicates that the winter range of the Smith's longspur extends southward to Ala., La., and Miss. Many of the birds were found at airports.

Long, Charles A. PRODUCTION OF STERILE EGGS IN THE DICKCISSEL. Wilson Bull. 75(4): 456. Dec. 1963. WR 114: 54

[Univ. Ill., Urbana.] Five eggs were sterile among 19 eggs in 5 nests.

McKinley, Daniel. HISTORY OF THE CAROLINA PARAKEET IN ITS SOUTHWESTERN RANGE. Wilson Bull. 76(1): 68-93. Mar. 1964. WR 114: 54

[Lake Erie Coll., Painesville, Ohio.] A history of decline of the Carolina parakeet is compiled for Texas, Okla., Kans, and Colo. With more than 80 references.

Newton, I. THE BREEDING BIOLOGY OF THE CHAFFINCH. Bird Study 11(1): 47-68, 4 figs. Mar. 1964. WR 114: 54

[Edward Grey Inst. Field Ornithol., Oxford, England.] Based on observations of more than 3,800 nests of the chaffinch (Fringilla coelebs). Egg-laying extended from mid-April to mid-June, with a peak in early May, but there was some variation among years and regions. Spring temperatures influenced the time of egg-laying and tended to synchronize the nestling period and peak insect populations. Clutches contained 2-7 eggs, with a mean of 4.3. Mean clutch size steadily declined after late May. Nest predation showed marked annual and seasonal fluctuation. Nesting success increased with advance of season. Young were hatched from 56% of clutches and fledged from 44%.

Olsson, Viking. STUDIES OF LESS FAMILIAR BIRDS / 126. PARROT CROSSBILL. British Birds 57(3): 118-123, 4 pls. Mar. 1964. WR 114: 54

Notes on location and composition of the nest, egg-laying, incubation, feeding of incubating female by male, feeding young, nest sanitation and development of young.

Robinson, F. N. THE BREEDING OF THE SOOTY SHEARWATER ON COURTS ISLAND, TASMANIA, AND MONTAGU ISLAND, N.S.W. Emu 63(4): 304-306. Mar. 1964. WR 114: 55
[Div. Wildl. Res., CSIRO, Canberra, Australia.] Puffinus griseus.

Tanner, James T. THE DECLINE AND PRESENT STATUS OF THE IMPERIAL WOODPECKER OF MEXICO. Auk 81(1): 74-81, 2 figs. Jan. 1964. WR 114: 55
[Univ. Tenn., Knoxville.] The imperial woodpecker is nearly extinct and will survive only if its killing by man can be stopped. Protective legislation is ineffective in remote areas where people exist at a subsistence level and are partly dependent for food upon wild creatures.

Wingate, David B. DISCOVERY OF BREEDING BLACK-CAPPED PETRELS ON HISPANIOLA. Auk 81(2): 147-159, 2 figs. Apr. 1964. WR 114: 55
[P. O. Box 437, Hamilton, Bermuda.] The status of the population of black-capped petrels (Pterodroma hasitata) has been obscure since late in the nineteenth century, but field work reported on here revealed 11 breeding colonies. The breeding population of Hispaniola may total over 4,000 birds. The population may be stable in the restricted, inaccessible portions of a formerly more extensive breeding area.--From summ.

REPTILES AND AMPHIBIANS

Bellis, Edward D. A SUMMER SIX-LINED RACERUNNER (CNEMIDOPHORUS SEXLINEATUS) POPULATION IN SOUTH CAROLINA. Herpetologica 20(1): 9-16, 2 figs. 17 Apr. 1964. WR 114: 55
[Pa. State Univ., University Park.] Covers habitat, home range, movement, population structure, activity and behavior.

Bragg, Arthur N. FURTHER STUDY OF PREDATION AND CANNIBALISM IN SPADEFOOT TADPOLES. Herpetologica 20(1): 17-24. 17 Apr. 1964. WR 114: 55
[Univ. Okla., Norman.] All Scaphiopus bombifrons tadpoles were predaceous on all available tadpoles, including their own species. S. couchi and S. hurteri tadpoles were not predaceous on tadpoles, but S. hurteri was dramatically cannibalistic upon transforming individuals or those already transformed.

Brattstrom, Bayard H. EVOLUTION OF THE PIT VIPERS. Trans. San Diego Soc. Nat. Hist. 13(11): 185-268, 41 figs. May 1964. WR 114: 55
[Calif. State Coll., Fullerton.] Based primarily on the osteology of the forms, a tentative phylogenetic plan of crotalid evolution is presented. Crotalids can be aged by counting the growth rings in the frontal bones.--From summ.

Craddock, James E., and W. L. Minckley. AMPHIBIANS AND REPTILES FROM MEADE COUNTY, KENTUCKY. Am. Midland Nat. 71(2): 382-391. Apr. 1964. WR 114: 55
[Univ. Louisville, Louisville, Ky.] Fifty-seven species of amphibians and reptiles were obtained from Meade and adjacent counties in northern Kentucky. Distributions of the animals in relation to the physiographic areas of northern Kentucky are discussed, and ecological observations on most of the species are included.--From abstr.

Cunningham, John D. OBSERVATIONS ON THE ECOLOGY OF THE CANYON TREEFROG, HYLA CALIFORNIAE. Herpetologica 20(1): 55-61, 4 figs. 17 Apr. 1964. WR 114: 55
[Oreg. Coll. Educ., Monmouth.] Covers activity, reproduction, moisture relations and temperature relations.

Denman, Norris S., and Ian S. Lapper. THE HERPETOLOGY OF MONT ST.-HILAIRE, ROUVILLE COUNTY, QUEBEC, CANADA. Herpetologica 20(1): 25-30. 17 Apr. 1964. WR 114: 55
[350 William Birks St., St.-Bruno de Montarville, Quebec, Canada.] Five spp. of amphibians and 6 of reptiles are listed, some with annotations. The reason for the depauperate fauna is probably a combination of winter cold and extermination by agriculture practices.

Greding, Edward J., Jr. FOOD OF ANCISTRODON C. CONTORTRIX IN HOUSTON AND TRINITY COUNTIES, TEXAS. Southwestern Nat. 9(2): 105. 15 May 1964. WR 114: 56

[Tarleton State Coll., Stephenville, Texas.] Adult Lygosoma laterale were found in six of 13 copperhead stomachs.

Main, A. R., and P. J. Bentley. WATER RELATIONS OF AUSTRALIAN BURROWING FROGS AND TREE FROGS. Ecology 45(2): 379-382, 1 fig. Spring 1964. WR 114: 56

[Univ. Western Australia, Nedlands.] Hyla moorei was least tolerant to desiccation and exhibited faster uptake of water; Hyla caerulea withstood the most extreme desiccation; maximum water content of the body was greatest in Notaden nichollsi and least in Hyla moorei.

Metter, Dean E. A MORPHOLOGICAL AND ECOLOGICAL COMPARISON OF TWO POPULATIONS OF THE TAILED FROG, ASCAPHUS TRUEI STEJNEGER. Copeia 1964(1): 181-195, 9 figs. Mar. 1964. WR 114: 56

[Univ. Idaho, Moscow.] Two populations of Ascaphus truei from northern Idaho and southeastern Washington show numerous differences in body proportions and conform poorly with named subspecies. The coloration and pattern of adults and tadpoles from the two areas are distinctive. The life history is similar in the two areas, but differs from that described for populations on the Olympic Peninsula. Breeding occurs in early fall. Male secondary sexual characteristics are highly developed only during the breeding season. The egg-laying season extends from late June to early August; sperm are evidently retained by the female from breeding the previous fall. Eggs hatch in August and September. Larvae possess hind legs at the age of two years, but transformation is not completed until 3 years after hatching.--From abstr.

Murphy, Ted D. BOX TURTLE, TERRAPENE CAROLINA, IN STOMACH OF COPPERHEAD, AGKISTRODON CONTORTRIX. Copeia 1964(1): 221. Mar. 1964. WR 114: 56

[Duke Univ., Durham, N. C.] The turtle was of recently-hatched size.

Neill, Wilfred T. TAXONOMY, NATURAL HISTORY, AND ZOOGEOGRAPHY OF THE RAINBOW SNAKE, FARANCIA ERYTROGRAMMA (PALISOT DE BEAUVOIS). Am. Midland Nat. 71(2): 257-295, 11 figs. Apr. 1964. WR 114: 56

[122 Homecrest Rd., New Port Richey, Fla.] Contains material on taxonomy, habitat, diet, dens, seasonal activity, reproduction, thermal relations, and enemies. With more than 100 references.

Ortleb, Edward P., and Owen J. Sexton. ORIENTATION OF THE PAINTED TURTLE, CHRYSEMYS PICTA. Am. Midland Nat. 71(2): 320-334. Apr. 1964. WR 114: 56

[Washington Univ., St. Louis, Mo.] The turtles had a marked orientation to light and responded positively to differences of 0.1 ft-c in intensity. Chrysemys kept at temperatures of 6 to 17C prior to testing oriented to warmer water currents. When kept at warmer temperatures ranging between 23 and 20C, they oriented to cooler water currents. The turtles did not orient to a current bearing aromatics from aquatic plants. There was no significant orientation to currents having red, green, or brown dye introduced.--From abstr.

Payne, Harold J., and Jack D. Burke. BLOOD OXYGEN CAPACITY IN TURTLES. Am. Midland Nat. 71(2): 460-465, 1 fig. Apr. 1964. WR 114: 56

[Medical Coll. Va., Richmond.] Blood oxygen capacity determinations were made on 40 individuals of the aquatic turtle, Chrysemys picta, and 48 individuals of the terrestrial turtle, Terrapene carolina. Statistically, there was neither a significant difference between the mean oxygen capacities of the aquatic and terrestrial turtles, nor between males and females within each species. However, there was a relation between blood oxygen capacity and body weight in each species in that the blood oxygen capacity per gram of body weight decreases as the body weight increases. This relation has been shown previously to exist in mammals and fishes.--From abstr.

Pettus, David, and Albert W. Spencer. SIZE AND METABOLIC DIFFERENCES IN PSEUDACRIS TRISERIATA (ANURA) FROM DIFFERENT ELEVATIONS. Southwestern Nat. 9 (1): 20-26. 10 Apr. 1964. WR 114: 57

[Colo. State Univ., Fort Collins.] Frogs from higher elevations are larger than those from prairie populations. Oxygen consumption per unit of body weight is shown to be inversely related to size. The ecological relationships of these two parameters and their possible adaptive significance are discussed. --From abstr.

Sexton, Owen J. DIFFERENTIAL PREDATION BY THE LIZARD, ANOLIS CAROLINENSIS, UPON UNICOLOURED AND POLYCOLOURED INSECTS AFTER AN INTERVAL OF NO CONTACT. Animal Behaviour 12(1): 101-110, 1 fig. Jan. 1964. WR 114: 57

[Washington Univ., St. Louis, Mo.] Captive lizards ate more single-colored than multiple-colored insects offered as food. The lizards appeared to differentiate insects only on the basis of color pattern, and perhaps body shape.

Turner, Frederick B., and Roland H. Wauer. A SURVEY OF THE HERPETOFAUNA OF THE DEATH VALLEY AREA. Great Basin Nat. 23(3-4): 119-128. Dec. 1963. WR 114: 57

[Univ. Calif., Los Angeles.] Habitat and population status of 7 less common snakes of the area are discussed.

Zweifel, Richard G. LIFE HISTORY OF PHRYNOHYAS VENULOSA (SALIENTIA: HYLIDAE) IN PANAMÁ. Copeia 1964(1): 201-208, 6 figs. Mar. 1964. WR 114: 57

[Am. Museum Nat. Hist., New York, N. Y.] Phrynohyas venulosa breeds in marshy ponds, laying its eggs in a surface film. In the laboratory, the eggs hatched in less than a day and metamorphosis commenced in 37 days. The manner of egg deposition and the presence in early larvae of extremely well-developed external gills are regarded as adaptations to the low oxygen tension prevalent in warm, standing waters.--From abstr.

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